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ABSTRACT

This book contains 15 papers on current issues and future options in Australian rural education. Part 1 covers contemporary issues and includes: (1) "Issues in Education in Remote Rural Australia" (education of girls, education of Aboriginals, lifelong learning, and research needs) (Ted Scott); (2) "Redefining Remoteness in the Post Industrial Society" (Peter d'Plesse); (3) "Expanding Vocational Preparation in the Post-Compulsory Years" (Richard Sweet); (4) "Educational Change in New South Wales: Rural Teacher Reactions and Rural Development" (Colin Boylan); (5) "Education in Rural Victoria Is a Social Justice Issue" (Merryl Robson); (6) "Austudy Rural Inequities" (Jennifer Sheed and Doug Lloyd); and (7) "Farm Management Education for the Future" (Keith Woodford and Ray Collins). Part 2, "Target Groups," includes: (1) "Retaining Teachers in Rural Schools: Satisfaction, Commitment, and Lifestyles" (Colin Boylan and others); (2) "Overcoming Distance: Isolated Rural Women's Access to TAFE across Australia" (Pauline Mageean); (3) "Isolation and Culture: The Challenges for Teachers in Torres Strait" (Barry Osborne); (4) "What about Me? Ever Thought about Including Rural Australians Who May Also Have an Intellectual Disability?" (Libby Cross and James Burrell); and (5) "Non English-Speaking Background Children in Wagga Wagga Schools" (Marietta Elliott). Part 3 covers technology and includes: (1) "Technologies: Present and Future for Distance Education in Victoria" (Neil Elliott and Ian Conboy); (2) "Learning Technology Programs in an Isolated Region: Classroom Applications of Technology" (Carol Hughes); and (3) "Technology and the Provision of Specialist Educational Support Services to Young Children of Itinerant Families" (Mike Lally). (SV)

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RURAL EDUCATION ISSUES

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AN AUSTRALIAN PERSPECTIVE

Colin Boylan and Margaret Alston

(Editors)

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RURAL EDUCATION ISSUES:

AN AUSTRALIAN PERSPECTIVE

Colin Boylan

and

Margaret Alston

(Editors)

THE SOCIETY FOR THE PROVISION OF EDUCATION
IN RURAL AUSTRALIA
AND
CENTRE FOR RURAL SOCIAL RESEARCH

Rural Education Issues:

An Australian Perspective

KEY PAPERS Number 3

Edited by Colin Boylan
and
Margaret Alston

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PREFACE 1

It was with great pleasure that the Society for the Provision of Education in Rural Australia (**S.P.E.R.A**). became involved in a project to provide a book on rural education. '**Rural Education Issues: An Australian Perspective**' is a joint project between **S.P.E.R.A.** and the **Centre for Rural Social Research** at Charles Sturt University, Riverina.

It is timely to produce a book which includes a variety of articles on Rural Education which are current and topical. No previous publication has provided an up-to-date Australian perspective and this will be useful to all who are interested in the unique aspects of providing education to rural and remote areas of Australia.

S.P.E.R.A. aims to advance the educational opportunities in rural Australia by:

- serving as a national advocate representing rural education and training;
- promoting state and regional delivery systems which brings about efficient and effective education for people in rural areas;
- encouraging both the collection and sharing of relevant information on the provision of education in rural areas.

The **S**ociety for the **P**rovision of **E**ducation in **R**ural **A**ustralia links people with a diverse range of interests in education and training to promote the development of rural Australia. In 1991 **S.P.E.R.A.** launched a refereed journal, 'Education in Rural Australia' which publishes articles, reports, reviews and research. Through the journal **S.P.E.R.A.** is able to:

- promote the development of education in rural Australia:
- disseminate innovative ideas, actions, programmes and policies in rural education;
- provide a venue for sharing information and a forum for new ideas and innovations; and

- link people interested in providing quality learning experiences to rural and remote Australians.

In being associated with the publication of this book **S.P.E.R.A.** aims to provide a positive view of education in rural areas, encouraging innovation and initiative in the provision of education services. Colin Boylan, executive member of **S.P.E.R.A.** has worked tirelessly with personnel at the **Centre for Rural Social Research** to produce this book and they should feel justifiable proud of their endeavours.

'Rural Education Issues: An Australian Perspective' is a unique publication which I commend to your bookshelves.

SHEILA KING
President
SPERA Inc.

PREFACE 2

Those who have undertaken research into rural education in Australia have found that schools have traditionally played a vital role in the life of the rural community. Schools share responsibilities, along with a small number of other social institutions, for the intellectual development of young people disadvantaged by geographical location, for fostering tolerance in towns often divided on racial grounds and for inspiring students to understand a world outside their often narrow experiences. Teachers must seek to achieve these things despite a reduced commitment to rural (small school) education on the part of the state, and in the face of the economic realities of communities experiencing deteriorating work options, the effects of the rural recession and increasing levels of crime and social disorder.

Not surprisingly, teachers and other professionals living and working in rural regions of Australia are quick to read the signs of economic malaise as well as the responses of government: where they identify that a town is likely to provide their children with limited opportunities they will endeavour to move. Their migration, in turn, robs the small community of energy and leadership, precipitating further population movement from the town. The government may then take the opportunity to move another teacher or even close the school. What remains is a community poorly serviced by education - the primary ingredient, we are told, which is required to make this nation a 'clever country'. With current trends continuing, present policies run the risk of intensifying the degree of disadvantage faced by rural dwellers. On equity grounds alone, their is an urgent need to consider how the intellectual development of rural Australians is to be achieved in an era of 'fiscal responsibility' (that is, at a time of reductions in government services).

This book touches upon this and other issues and in doing so aims to inform teachers, parents, students, researchers and policy makers, of the present concerns regarding rural education in this country. It is a collection of the best papers delivered over recent years by rural educators and is designed to stimulate discussion about future options.

he Centre for Rural Social Research is delighted that **S.P.E.R.A.** has ollaborated in the publication of this book. That organisation stands out as the ost active and influential lobby group concerned with national rural education olicy. Its conferences and its journal are vehicles for the discussion of new evelopments in education in the countryside, and its members are dedicated to he task of improving schooling throughout regional Australia.

take this opportunity to congratulate Centre members Colin Boylan and largaret Alston for the successful completion of this volume, the third in the ey Papers series produced by the Centre. Readers interested in purchasing xtra copies of this publication, or who would like to order copies of the other olumes in the series (**Rural Women** [1990] and **Family Farming** [1991]) can o so by writing to the following address:

entre for Rural Social Research
harles Sturt University
ocked Bag 678
Vagga Wagga NSW 2678

EOFFREY LAWRENCE
IRECTOR, CENTRE FOR
URAL SOCIAL RESEARCH

1

Contemporary Issues

Issues in Education in Remote Rural Australia

Redefining Remoteness in the Post Industrial Society

Expanding Vocational Preparation in the Post-Compulsory Years

Educational Change in New South Wales:Rural Teacher Reactions and Rural Development

Education in Rural Victoria is a Social Justice Issue

Austudy Rural Inequities

Farm Management Education For the Future

ISSUES IN EDUCATION IN REMOTE RURAL AUSTRALIA

Professor Ted Scott
Rural Education Research and Development Centre
James Cook University of North Queensland

The term Rural Australia is being used by the Commonwealth Government in recent times very, very broadly, indeed, to encompass about ninety five percent (95%) of the Australian mainland. Indeed, it deals with virtually all of Australia that is outside the large metropolitan areas and is more than fifty (50) kilometres remote from a sizeable community. Now, having said that it embraces ninety five percent (95%) of Australia, you would realise, of course, that encompassed in that area are a number of very significant communities that are focal points for the territory around them. In a sense we might talk about those areas as being provincial Australia. If you come from provincial Australia then I apologise as my remarks are not going to be really addressed to you. I am going to take the other section that we really call remote Australia. I am talking about those smaller country towns, the small service towns. I am talking about the railway fettlers' camps. I am talking about the station properties, and the farming communities, and the isolated aboriginal communities.

My definition of rural Australia is the remote section of rural Australia and not the larger, provincial areas. Having then defined what I have taken to be rural Australia, I am restricting my remarks to only four (4) areas. Rather than looking into a crystal ball it would be safer to take a line that dealt with problems in rural education or education in rural communities that, I believe, need to be addressed.

You will notice that I equivocated a little bit and said rural education or more correctly education in rural communities. That was of necessity because quite recently when Lady Logan and I were talking to the corporate sector about funding the James Cook University's new Rural Education Research and Development Centre, we found that a number of people interpreted rural education as being Agricultural Colleges. We thought that to get the message straight, we had better start talking about education in rural communities. I assure you that I will now use both terms and that they are synonymous.

I am not talking necessarily about agricultural colleges, though they are an important part of the facilities we provide for education in rural Australia.

Well now, what are the four (4) issues that I want to talk about?

I am going to talk first about the education of girls in rural Australia. Then I want to talk about the education of Aboriginals in rural Australia and thirdly I want to talk about educating rural Australians for life long learning. Finally, I will suggest some critical areas for research to underpin what might be the scenarios for the future. I am going to be short on specifics and more importantly, I go back to my opening remarks that what I hope is that by opening up a problem you'll come in and perhaps arrive at a possible solution or some directions for tackling the problems.

The Education of Girls in Rural Australia

In 1983, I was privileged to join the Commonwealth Government's committee of review of effectiveness of the Country Areas Programme (C.A.P.) in this Nation. Being a Queenslander nominated by the Queensland Government, I was not permitted to review rural education in Queensland. In fact, I inherited the Northern Territory and South Australia, but I was certainly involved in the major 'wash up' before we went to the working party in Adelaide when we shared the problems that we had found and discovered that we had so many things in common. As a result of that review, we, as a committee, became very much concerned about the problem of educating girls in rural Australia. It is very sad to say that they have been an almost neglected part of our community. This was brought home to us, time and time again, by the comments from parents of those children - as I told a group in Mt Isa a story that is factual - an event that I will not forget as long as I live. In Maree, South Australia, which used to be the exchange railway town and which is now almost deserted but it's the beginning of the Birdsville track, I sat there, after dinner, with a group of parents who had been brought in to talk with me about problems they faced in educating their children. One mother looked across the table to a twelve (12) year old girl walking along holding the hand of her three or four year old brother, and she said 'Professor Scott that sums up the problem because my daughter is twelve and in four years time there is no way she is going to avoid having a child hanging on her hand that will be her own. There is

nothing else for her to do.' That hit home. Here was a woman who, in despair, saw no future in a small community for her daughter.

Now, we know that many of the girls in families in remote Australia have the opportunity to go away to boarding school or to go and reside in a larger town. Many don't. Many of those girls are exceedingly able and can carve out traditional careers. Many of them are average, run-of-the-mill Australian girls. Many of them have no aspiration to leave the community in which they have been reared and they look forward to a healthy life where they have been brought up. Our education system has let them down and is letting them down.

This problem carries on beyond early childhood into the late teenage years, into early adulthood, and you, yourself, have seen perhaps, in your own sons and daughters who have grown up now and even have young families, or perhaps a bit older than that even who now look around in despair and crest-fallen about what they might do. Life is humdrum, life is not fulfilling their expectations of a happy and contented life. We need to think very seriously about this particular problem and the extent to which it is a problem varies very much from community to community. Rural education communities, as you know, are not identical nationwide, or statewide. You can find one rural community just fifty (50) kilometres from another which has a totally different attitude towards rearing of children and towards educational problems. But, the first problem that needs to be tackled is a community and parental attitude problem. An attitude problem about what might be done for girls to enjoy equal opportunity for fulfilment along with their brothers. The problem of getting people to realise that people are equal in all, except sex at birth. The intellectual calibre is not influenced dramatically by the sex you are but the way in which that intellectual calibre is developed is very much influenced by the kind of curriculum to which we expose children, and the attitudes we expressed to them as to whether these are 'boy's things' or these are 'girl's things' and never shall you cross. Now I have, ever since the sexist argument got underway, rejected being involved in that argument.

I don't think you have to engage in the argument to face up to the problem that girls are being denied equality of opportunity. We need, for example, to look very seriously at some of our practices in classrooms, to look at what we might do in distance education with regard to girls in terms of the

curriculum that we offer and in which we allow girls to be selective. It is only in very recent times that we have, for example, encouraged girls to engage in the manual arts subjects, to become actively involved, not in using computers as simply a learning device, but in terms of becoming involved in higher accountancy and commercial practices. We need to broaden the curriculum electives for girls to open up the vistas for them. The other problem, of course, is that we do not have many role models for girls to see in country areas. O.K., they are on a property and they see the models of the men. They see the models of Mum and big sister working around the property. If they go into town, they see the models of the girl in the bank, they see the model, if they happen to go to the doctor and they have a lady doctor, they see that and so. But, the range of role models for girls to see as potential avenues for a vocation are strictly limited. We have to develop systems in the future which will make it possible to let girls be exposed to the variety of role models. One of the aspirations of the Research and Development Centre at James Cook University, is to provide on land now being made available by the Queensland government a facility in Rose Bay in which groups of girls and their teachers; come to see role models in the community, to interact with people, to see the relative opportunities that are there if you want to take advantage of them. I have every faith that, as educators, we can progressively tackle this problem as the school level. But we don't leave people high and dry at the end of year 10 or year 12 or whatever it is when a girl decides that her formal schooling has ended. There is the movement forward into the community beyond, and into that role, for most of them, of motherhood and family rearing and idle time on their hands. And it's imperative that we begin to generate in rural areas a wide range of leisure time pursuits that cannot only bring leisure enjoyment but also can be remunerative for girls that they do a worthwhile and contributing something to the family circle.

I don't profess to have all the answers to the problem of educating girls in rural communities. But I cannot help but be struck by the magnitude of the problem. The most recent report by the now defunct Schools Commission, Schooling in Rural Australia also reported in 1987 along similar lines about the problem of education of girls in rural communities. The fact that we need to provide more equal opportunities.

The Education of Aborigines in Rural Australia

I wanted to talk about the problem of Aborigines. Aboriginals in Australia as you know, fall into a number of categories, but more than seventy percent (70%) of them are either urban dwellers or fringe urban dwellers in communities outside metropolitan areas. And, of course, we have the large number of Aboriginals, as well who dwell in Aboriginal communities. The kinds of education that we offer to these is very different, we have community Aboriginal schools. But I won't talk primarily about that group tonight, that's an area for the specialists.

I want to talk about the group who are on station properties or who are in the small country towns, attending the primary or the secondary schools in our rural areas. It doesn't take you long, if you're honest, to recognise that the fundamental problem facing us, which is more than a problem, indeed it's a responsibility, is that of developing an Aboriginal's self respect, self esteem. And our recognising as well as the Aboriginal recognising that their Aboriginal identity is something of which they should be proud.

Aboriginal students have had a great deal of attention directed to them by the Commonwealth Government in recent years. And some very effective work is being done. But considerably more needs to be done with the money and the energies that are being put forward. I do not believe that we should be coercing Aboriginal people to live the life of a Caucasian or to live the life of the majority of Australians. But I do believe that we are obligated to provide pathways for them to pursue that lifestyle if they so wish. One of the things that faces us in rural education is ensuring that, in the standard classroom in our distance education activities, that we encourage Aboriginal students to be bicultural. Of course, if you go to the Northern Territory today you will find that they are streets ahead of almost anywhere in this Nation in terms of bilingual training, bilingual education studies and Aboriginal literacy. Areas that need to be taken seriously if we are going to come to grips with the problems of developing self respect, self esteem and opening up opportunity for any Aboriginal student who wants to take those opportunities. Now they, too, suffer as the girls from a lack of role models. One of the things we have to address in future is how we get Aboriginal people who have, in our sense made it, made something of their lives and who are able to be seen there as a model for Aboriginal students that that is the way an Aboriginal can be regarded and can function in our society. We

have the opportunity to do it in our smaller school communities. The employment of Aboriginal teachers, the employment of Aboriginal teacher aids, the employment of Aboriginal clerical assistants or community liaison people and so on. While you'll find the hardest thing on earth to do, attempting to involve in school community committees that they feel that they have a part to play in deciding what the programme for the school will be, in deciding how the money which is raised for the community will be spent in the interests of the school. We can't turn our backs on them and say they just can't do it. I believe we have the responsibility of endeavouring to work in these directions. Now, I want to stress, I am very much aware of the very fine work which is done in many schools, and in each state with regard to the education of Aboriginal people. But the fact remains, that we've not yet done it with the degree of force, if you like and commitment that we ought to have done. So I see that along with the education of girls, the education of Aboriginals in rural Australia is a very significant problem yet to be resolved.

Education for Lifelong Learning

I said the third issue that I wanted to talk about was education for lifelong learning in rural Australia. Education is two things, it's a process, and, of course it's an accomplishment. You talk about the educational level of a person or you talk about the processes to which a person has been subjected in being educated. Sometimes education is directed towards achieving very specific targets. Our schools tend, more than they ought, to function upon specific targets, when one of the most important objectives of education is to prepare a person to cope with life as that person makes their way through life. The claims of problems that we beat day in and day out: How do we cope with them? How do we generate enjoyment? How do we become creative people well beyond school? How do we make the adjustment to changing social conditions? How do we branch into new areas of activity? The job of the school and our educational system is to educate for lifelong learning. Now in the formal settings of urban classrooms, a lot is being done and it's relatively easy to do it. It is not as easy to do it in multi-grade classrooms in country areas, or where one depends entirely upon distance education. Even with the most sophisticated technology that we have available today, it is not easy to achieve the development of those competencies that are essential for

lifelong learning. True learning is not about being a sponge absorbing facts and figures, important though they may be. True learning is knowing what to do with the information when you've got it. Being able to play with the knowledge, to interact with it, to bounce it around. Good heavens you've all been to school, you all know that your Chemistry teacher will tell you the formula for water is H_2O. A useless piece of information. It isn't useless if you happen to know that that means it the combination of two gases - hydrogen and oxygen to both of which have a range of uses in our society. And which can be achieved by breaking up water. For children to test their thinking against the mind of another is a critical thing in education. You can put all you like on the video screen, you can punch all you like into the P.C., it can only talk back to you the answers that are already programmed in it. That's not what interactive learning is all about. Interactive learning is about you disagreeing with me or picking up my idea and running with it, or testing it, whether it'll work or it won't work. Can we solve the problem this way or that way? This is what our rural kids are denied, in many situations, and this is something that we have to address, how we get the interactive element into the learning experiences that are going on in our classrooms. The right to hope when our children finish their formal school learning that they've acquired two things as a result of it. First, they have acquired a scent of intellectual skills, of thinking processes that allow them to relate to experiences. Secondly, that they have formulated a value system which allows them to test the validity and appropriateness of the decisions they're going to take. Parents compensate for this in the natural way, very often in the home. But then many parents don't. They don't interact with their children in this way. If they're not getting it in the home, and they're not getting it through distance education, and they're not getting it in the school environment, they're being short changed. So the third problem we have to address is the question of interactive learning which equips our children for their lifelong learning in rural communities.

Future Directions For Research

Now the fourth thing that I said I wanted to talk about, was future directions in research. Recently, Mr Dawkins and Mr Kerin jointly announced a policy called **A FAIR GO** which is a new policy for improving rural education opportunities in Australia, particularly beyond the school level. I applaud those initiatives. But I, equally must observe that before they are widely

implemented, we need to test the assumptions on which the decisions are based. We need to determine those critical areas in which the funds need to be applied and how they need to be applied. Those of us in education function most of the time because the situation occurs and we have to deal with it. We seldom stop to think whether we would deal with it in another way if we truly researched the problem. A great deal of research, in recent times, has been directed towards the problems of educating people in rural communities in educational opportunities, and so on. But it's all in isolated pigeon holes. The thing that is needed, and is needed urgently, is to bring all of this research together and say look when we look at it, what do we know, and what do we still need to know. And what are the priorities for discovering those pieces of information. I could give you two examples that we know little about, we pretend we do, but we know little about in the field of the education of Aboriginals. Those who have worked with Aboriginals daily will tell you they don't see the world with the same vision or view as we do. And that conditions how they respond to learning experiences. We must find out how Aboriginals view the world, how do they get their images together. What factors influence the formation of them? We know that Aboriginals don't learn in the same way as we do. What are their learning styles? and how can we adjust to those? We need to pursue research then that will address the questions of opportunity. I didn't come here intending to give you a list of research projects that should be undertaken. I hope that in the course of the discussion you might raise some of them. I want to highlight the fact that, in the future, we must give more care to researching a whole field of rural education, and to base our decisions and operations on that research.

Now the things I've suggested, looking at the problem of the education of girls in rural communities, looking at the problem of educating Aborigines, looking at the problem of interactive learning and of conducting research demands two things. First, commitment. Commitment by Australians - by me, by you - to pursue these things, and, of course, if you have commitment the next comes and that is that is requires resources. And resources in the end, whether they are human or equipment, come back to money: to train, to purchase equipment and so on. We have a very good track record in recent years of the government expenditure in all levels, both state and federal, on rural education. When you look at some of the technology that is around the corner or nearly here now that can be used in the delivery system of rural education and you look at the cost, you begin to say there's

no way that the Nation can afford it. I want to put it to you there is no way the Nation can afford **not** to afford it. The rural sector of this country contributes more significantly than any other section of the economy to the welfare of this Nation. If we're going to keep people in our rural communities, if we're going to give them ... what we are on about: equality of opportunity and quality life, we have an obligation to find those resources.

REDEFINING REMOTENESS IN THE POST INDUSTRIAL SOCIETY

Peter d'Plesse
Roseneath Primary School
Tasmania

Introduction

Remoteness is one of a number of concepts that have been used to describe the observed differences between various geographic regions and is sometimes used interchangeably with descriptive terms such as rurality and isolation. This discussion will suggest a definition for the concept of remoteness and explore how it may change within the context of the emerging information based society. Remoteness has generally been defined in terms of distance from major urban centres, however close observation of those regions that are commonly regarded as isolated or remote indicates that the correlation between distance and the evidence of remoteness in populations is not necessarily linear.

Isolation in Tasmania

d'Plesse (1990) argued that a more reliable determinant of the degree of remoteness was the concept of resistance, namely the cost, time and effort of travel between centres and that this was reinforced by the factors of structural and psychological remoteness. Such an argument would allow the concept of remoteness to be defined in terms of a functional relationship between these parameters and could logically lead to the view that if the underlying characteristics of society were to change, then the nature of this functional relationship and therefore the associated definition of remoteness would also be subject to change.

A major underlying change in the characteristics of society that would fit the above scenario is the transition from an industrial to a post industrial, information based society which is presently occuring. There is little doubt that this process is stimulating a significant change in a wide range of traditional practices, beliefs and concepts, including that of remoteness.

Remoteness As An Evolving Concept

The argument regarding the change in the nature of remoteness caused by the transition from an industrial to an information based society is somewhat complex, but may be summarized briefly as follows. In industrial society the basic societal principle was the satisfaction of material needs. Remoteness therefore related to the satisfaction of these material needs, with urbanization as a dominant social force for this need satisfaction. The degree of remoteness could therefore be defined using three parameters:

Resistance (R_u) the cost, time and effort necessary in gaining access to urban centres in order to satisfy socially accepted material needs.

Structural Isolation (I_s) the attitudes and internal arrangements within an organization that result in inappropriate or inadequate resources and services being allocated to those whom the organization is designed to serve.

Psychological Isolation (I_p) the attitude or state of mind in individuals (resulting from a complex combination of factors), which becomes manifest in a group and produces a spirit of inertia and insularity that prevents individuals from taking those steps within their power to minimize the negative effects of their location or gain access to particular services.

Therefore, remoteness in industrial society can be represented functionally as follows:

Degree of remoteness - $f\{ R_u \times (I_s + I_p) \}$

In the information society however, the evolving basic societal principle would appear to be the satisfaction of goal achievement needs, so

remoteness would relate to the satisfaction of these needs, with individual empowerment as the dominant social force. Remoteness under these circumstances could therefore be defined using the following parameter mix:

Resistance (R_i) - a constant relating to resistance (in terms of cost, skills and relevance) against access to information.

Empowerment - defined four factors which need not be discussed here, but comprising:

Pro-active interaction I_p

Purpose **P**

Vision **V**

Pro-active feedback F_p

where each is regarded as a necessary but not individually sufficient condition for achieving goal achievement needs.

Therefore remoteness in an information society could be defined functionally as follows:

$$\text{Degree of remoteness} = f\left(\frac{Ri}{Ip + P + V + Fp}\right)$$

The effect of remoteness in an information society may therefore be to produce distinct classes of people, with maximum power going to those who have the skills and money to access information and for whom this information has direct relevance. This scenario has important implications for the concept of remoteness within the context of an information society because it portrays the potential for groups in society to become remote in terms that are unrelated to distance, (geographical space), but rather in terms of information space.

Information Space Supplements Geographic Space

Information space can be defined as the spatial reach of an information network and has developed in four main evolutionary stages that match the evolution of computer based technology, namely:

1. local information space;
2. regional information space;
3. national information space; and
4. global information space.

These evolutionary stages reflect the change in computer technology from the large, immobile valve based computers used in the areas of large scale science, defence and space projects through to the small but powerful personal micro-computer capable of large scale information transfer on a global basis.

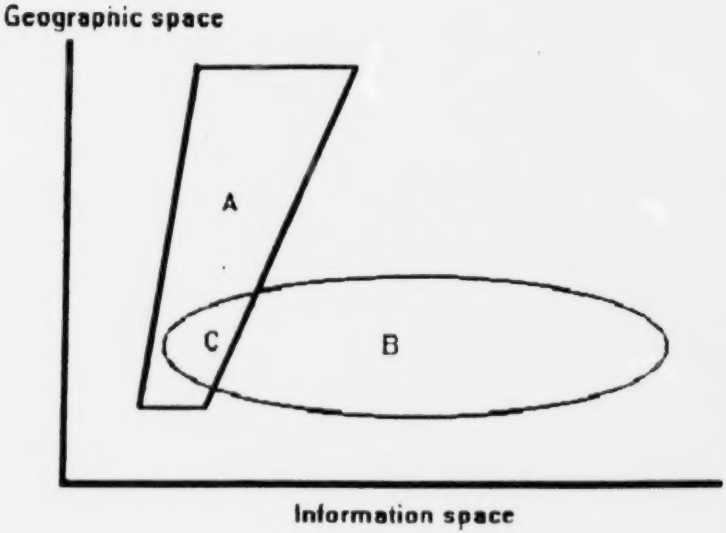
Evidence for the existence of information space can be found by tracing the lines and patterns of information transfer both from and to the various organizations and agencies operating in society. In fact such an analysis would reveal that the various classes of information space co-exist in a multi-layered fashion similar to an inverted wedding cake, with random slices missing from the various layers. These inverted wedding cakes of information space would be centred on the large urban capital cities which are the centres of information generation and transfer and the missing slices would represent particular groups or areas within society that do not have access to the various categories of information space because of the effects of resistance (R_i). The people constituting these groups will not have the money, skills or understanding to acquire and appreciate access to the information networks that could fulfil their needs and are therefore disadvantaged in terms not related to distance (geographic space).

Remoteness As A Two Dimensional Concept

From the above discussion it should now be possible to regard remoteness as a concept open to evolutionary change just like any other concept facing change arising from the societal transition presently underway. Given that both forms of resistance identified previously will coexist within society for the foreseeable future, it should be possible to accept that remoteness could be identified in terms of both geographic space (resistance against geographic access in terms of cost, time and effort) and information space (resistance in terms of the cost, skills and relevance of information access). The resulting situation is represented schematically in Figure 1.

FIGURE 1

REMOTENESS EXPRESSED IN TERMS OF GEOGRAPHIC AND INFORMATION SPACE



This diagram shows how resistance against access to urban centres (i.e. distance) can result in regions being considered remote or isolated, represented by the area A, while resistance against access to information can produce a similar set of remote regions represented by the area B. As both forms of resistance will obviously coexist in western society for the foreseeable future, some regions will suffer from a combination of both forms of resistance, represented by the area C. Each of these areas represents a target group that must be addressed by any program intended to alleviate the negative efforts of remoteness, namely:

Group A - Those populations whose remoteness is determined by the level of access to urban centres.

Group B - Those populations whose remoteness is determined by the level of access to urban based information networks.

Group C - Those populations whose remoteness is determined by the level of access to both urban centres and computer based information networks.

It is apparent that these populations are not necessarily confined to the further corners of rural Australia and may even occur within large urban areas, because the above discussion leads to a definition of remoteness as follows:

Remoteness occurs within geographic and information space when the resistance against the satisfaction of material or goal achievement needs reaches a level at which populations fall behind the general rate of change within mainstream society in terms of ideas, values, attitudes, skills or material fashion.

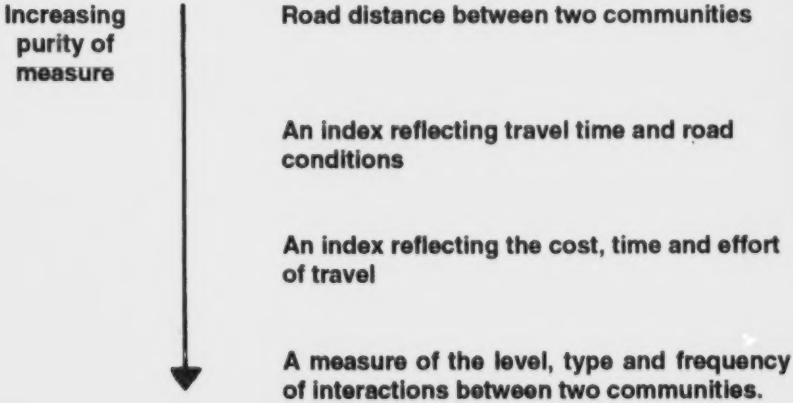
Measuring Remoteness

Geographic Space

In light of the above definition it is apparent that in order to identify areas that can be considered to be remote, appropriate indicators must be developed to measure levels of resistance in both geographic and

information space. A range of indicators for the level of resistance in geographic space can be detailed, forming a sequence ranging from the comparatively simple to details analytical measures. This is shown in Figure 2.

FIGURE 2
GEOGRAPHIC SPACE


Increasing purity of measure
Road distance between two communities
An index reflecting travel time and road conditions
An index reflecting the cost, time and effort of travel
A measure of the level, type and frequency of interactions between two communities.

Such a sequence would reflect the evolutionary development of remoteness in terms of the level of understanding and its purity as a concept.

Information Space

Information space would require a different set of indicators in order to measure resistance in terms of the cost, skills and relevance of information access. Again a sequence of indicators could be developed reflecting the level of analysis being applied to the investigation. An example of such a sequence is detailed in Figure 3.

FIGURE 3
INFORMATION SPACE

Redefining Remoteness

Increasing purity of measure

Number of computers per head of population

Index reflecting the number of computers per head and the use to which they are put

Index reflecting the number of modems per head and the nature of the electronic link established

An index reflecting a quantitative assessment of the number of information exchanges between communities, the nature of the information exchange and the level of network operation.

In this last indicator the network level could perhaps be classified according to whether the information network is local, regional, national or global in nature while the nature of the information exchange could be weighted according to a classification like the one below:

1. Information delivery - electronic mail;

2. Financial management - electronic funds transfer;

3. Service orientation - reactive to defined consumer needs such as travel bookings; and

4. Creative orientation - proactive development of designs, concepts and written material.

The indicators for geographical and information space detailed above are not meant to be exhaustive or refined to their highest level, but are intended to show that a range of indicators could be developed that would stimulate the evolution of an increasingly pure concept of remoteness.

Conclusion

This discussion has been concerned with arguing a case for the redefinition of remoteness on the grounds that the present transition from an industrial to a post industrial society has created the conditions for the emergence of a new form of disadvantage based on access to information. In industrial society remoteness existed in terms of geographical space and as a concept this form of remoteness can be defined in increasingly pure form by refining the nature of the indicators used in its identification.

Information space is a creation of the post industrial society and remoteness within this context takes on another form whose identification would require the development of a new set of indicators. As these indicators are refined a clearer vision of remoteness under these new circumstances will emerge. Given the nature of our society it can be anticipated that both concepts of remoteness will co-exist to create what is in effect a two dimensional entity, the effects of which will constitute an interesting challenge for leadership and management into the next century.

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EXPANDING VOCATIONAL PREPARATION IN THE POST-COMPULSORY YEARS

Richard Sweet
Dusseldorp Skills Foundation

Abstract

Both the needs of the economy and the needs of young people argue for expanded and improved vocational preparation options in the post compulsory years. A national target is proposed for the year 2000 of 50 per cent of all young people receiving significant credit towards industry and TAFE recognised qualifications in the two years following the end of the compulsory schooling. Implementing such a target will require new approaches to vocational preparation.

As management practices and work organisation stress greater responsibility and participation, and as advanced technology is introduced, a fusion of general education and vocational education is needed to develop workers who are broadly competent rather than narrowly trained for single jobs. The skill formation needed to achieve this needs to be based both in the work place and in the classroom. Acting alone the major institutions are unable to form the springboard for substantial growth in provision, or by themselves to meet the new education and skill formation requirements.

Schools are widely accessible, but lack appropriate specialised teaching, equipment and capital resources, and have no tradition of matching their courses to industry standards.

TAFE colleges have a tradition of designing courses to meet industry standards, but they are too few in number, their priorities are heavily directed to the needs of the existing work force, and they have limited experience in combining their provision with general education and personal development.

All communities contain work places, but paid employment for teenagers is shrinking rather than growing in quantity. Historically the

Australian labour market has been reluctant to attach recognised skill development to either full-time or part-time paid youth labour.

The need for expanded and improved vocational preparation can only be met by these institutions forming new partnerships, with learning in various settings occurring within a common framework of certification. Schools and work places are the most obvious focus of these new partnerships.

The paper describes TRAC, a competency based combination of school, work and off-the-job learning designed to develop competencies that are generic to the service industries, and which is accredited in the Hunter region of New South Wales as a Higher School Certificate course. TRAC depends for its success upon flexibility, joint ownership between schools and industry, active involvement by existing workers, and the existence of an independent co-ordination centre able to provide caring, quality control and management of the learning. The model is capable of being adopted in a wide range of industry and occupational areas.

Introduction

This paper starts from a position of accepting rather than debating the need to expand and improve the range of vocational options available in the post compulsory years. The evidence for this is compelling both from the perspective of the needs of the young person and from the perspective of the needs of the economy. It will not be reviewed in any detail here[1].

A second question that will not be dealt with in detail here is that of targets. In broad terms Australia must move to a position where all young people are able to participate in full or part-time education and training for at least two years following the end of compulsory schooling. However targets that are expressed in terms of outputs are to be preferred to participation goals.

In the case of vocational preparation, a reasonable target would be to ensure that, by the year 2000, 50 per cent of all young people receive, in the two years following the completion of compulsory schooling, significant credit towards industry and TAFE recognised qualifications.

The more important questions at this stage of the debate are not whether or how many, but:

What do we mean by a vocational education? and

How can we expand it for young people in Australia?

What is Vocational Education

The relationships between 'vocational' and 'general' education, and between 'education' and 'training', have been debated for over a century. The Australian approach to these questions has emphasised distinctions rather than commonality, and has supported clear separations, in both curriculum and institutional terms, between schools and the work place on the one hand, and between schools and TAFE on the other.* It has also supported a tradition of attaching recognised skill development programs to only a limited range of occupations, predominantly those that have come to be referred to as the skilled trades.

Our principal economic competitors have resolved these debates in ways that have led to recognised skill development for youth being attached to a far wider range of occupations and industries than is the case in Australia. They have also resolved the debates in ways that have led to substantial overlap between what we have largely kept separate. In countries such as France, Japan, Italy, Finland and Sweden schools accept as a matter of course that they have a role in providing students with skills that are required by the labour market, as well as roles in preparing them for higher education and for active citizenship. In doing so they often although not universally accept that learning needs to occur in the work place as well as in the school.

In virtually all countries that have not been influenced by the Anglo-Saxon tradition and by its apprenticeship model, students who enrol in programs that are termed vocational combine in their total curriculum elements of what we would refer to as vocational training and elements of what we would refer to as general education: languages, the humanities, mathematics and science. This is as true of school based models of vocational preparation such as those found in France and Sweden as it is of employment based models such as the dual system in the German speaking countries and Sweden's industrial high schools.

It is widely accepted elsewhere in the world that the continued development of intellectual and social competencies in the post-compulsory years needs to be enmeshed with the development of competencies that are explicitly required by the labour market. The influence of such traditions on the content of learning in the post-compulsory years can be seen in the inclusion of sport, foreign languages and a personal development strand in the curriculum of apprentices in the SAAB-Scania industrial high school[2]. It can be seen in the inclusion of communication skills and the economic and social sciences in the curriculum of Ford's apprentices in West Germany[3].

The influence of these traditions can be seen in the fact that shop assistant is the largest apprenticeship category in both Austria and Germany, in the existence of a three year vocational 'line' in retail trade and clerical work in Swedish upper secondary schools, and in the existence of a baccalaureate in commercial techniques (sales) in France[4]. The influence of these quite different traditions in vocational education is translated into a view that the development of attitudes, values and work habits is as important an outcome as the development of specific occupational and industry skills.

These quite different resolutions of the debates on preparing young people for work have involved countries arriving at acceptable answers on matters such as the rigour of the curriculum and the nature of pathways between the post-compulsory years and later education and employment options. Where these resolutions have occurred, vocational programs are not invariably regarded as lacking educational rigour, nor do they invariably bar the student from further post-school educational options. As in the case of general education programs these matters are variable. They are able to be resolved in several ways.

Old Problems, New Resolutions

Those long-standing educational traditions which see general and vocational education as inter-twined harmonise with recent thinking on occupational competence that is emerging from Europe and the OECD. Studies of the skill requirements of advanced manufacturing and service enterprises point to a need for the competencies required by workers in their roles as citizens to merge much more closely with the competencies that they require in the work place. There are a number of common themes in such studies:

the need for competence in areas such as team work, problem solving, planning and communication as well as the more traditionally defined technical skills;
the need for workers not simply to acquire narrowly defined technical competencies, but also to become socialised to the values and expectations of the work place; and

the need for learning within the work place and learning within educational institutions to be seen in common terms, a view which is fundamental to the notion of skill formation[5].

Whilst new in one sense, there is a common thread between these ideas and the long-standing educational tradition of valuing the conjunction of learning by doing and the learning of theory. It was this approach to learning which made Dewey an enthusiastic supporter of vocational schools (the so-called Gary schools) in Indiana in the early years of this century[6]. It is an educational tradition which infuses the Victorian Certificate of Education.

Approaches to curriculum that are emerging from studies of advanced enterprises are also supported by the literature on the economics of development education[7]. This points out that vocational education programs are most successful when learning in the work place is clearly integrated with institutional learning. The loss of relevance to the work place that occurs when all instruction takes place in educational institutions reduces the effectiveness of programs substantially. This realisation is currently increasing the importance attached to learning within the work place in the German dual system[8].

Recent research from the United States supports an approach based upon fusing different domains of learning. Among high school graduates who do not enter higher education, the most satisfactory labour market outcomes (in the form of variables such as higher earnings and lower unemployment rates) are found among those who have combined general and vocational education courses. Their outcomes exceed both those of graduates of purely general education courses and those of graduates of purely vocational education courses.[9]

The argument is for a convergence of vocational and general education to meet both individual needs and industry needs. It is an argument for traditional approaches to 'training' and to 'general education' not being able

by themselves to accomplish what is required. It is a case for personal development occurring in the real world, through learning by application, being combined with the cognitive development that can occur in the classroom as the result of learning general principles. It is a case for the work place becoming more closely integrated with educational institutions.

Whilst it is increasingly difficult to maintain a distinction between vocational and general education in terms of content, it is important to recognise that significant differences exist between the two traditions in methods of setting standards and of recognising outcomes. Put simply, it is industry rather than higher education or schools themselves that plays the dominant role in setting standards in vocational programs. And it is the recognition by industry that gives the outcomes of programs their value for the individual in the labour market.

This parallels the way in which recognition by higher education institutions gives the outcomes of traditional academic courses value for the individual. These traditions are ones which higher education institutions themselves are familiar with, given the dominant role played by professional associations in setting standards and recognising outcomes in disciplines such as medicine, architecture, accounting, dentistry, engineering, law and veterinary science.

Core Work Place Competencies

Underlying the striking difference between the extent of vocational preparation programs in Australia and other countries are quite different traditions of defining skill. Where large numbers of young people have the opportunity to take part in vocational preparation, occupational competence is defined more comprehensively and more inclusively. It is taken to include the full spectrum of occupations, and to include attitudes, values and work habits.

The importance of what are variously known as core competencies, new competencies, key qualifications or work place basics is a persistent theme in the recent literature on vocational education[10]. By these varying terms is meant those social, attitudinal and personal skills that are important in all work places. Much of the literature on these core competencies is unstructured and speculative. However there have been two important attempts to arrive at comprehensive listings of these core competencies

empirically. The first of these is based on a detailed examination of a large number of international case studies of the skill formation consequences of advanced technologies and new and more participative methods of work organisation[11]. The second is based on detailed investigation, by the American Society for Training and Development, of the skills that employers want[12].

TABLE 1:
Work Place Basics

Interpersonal skills	Able to get along with customers, suppliers and fellow workers.
Listening	The ability to heed the key points of customers', suppliers' and co-workers' concern.
Reading	The ability to read and understand written material in the work place.
Self esteem	Able to be proud of yourself and believe in your potential to be successful.
Oral communication	The ability to respond appropriately to the key points of customers' suppliers' and co-workers' concerns.
Team work	The ability to work with others to achieve a goal.
Initiative	The motivation and creative ability to be able to think and perform independently.
Computation	Able to perform computation required in the workplace.
Evaluation	The ability to assess and certify the quality of a product or service.
Learning to learn	The ability to acquire the knowledge and skills needed to learn effectively, no matter what the learning situation.

Written communication	Able to communicate effectively in writing.
Obtaining and using	The ability to decide which information is relevant, to know where information to obtain it, to obtain it and to put it to use.
Goal setting	Able to set personal goals.
Career development and planning	Able to set career goals and implement them.
Multicultural skills	The ability to understand and to work with people from other cultures.
Negotiation	The ability to build consensus through give and take.
Organisational skills	Understanding of the organisation, of where it is headed, and of how you can make a contribution.
Peer training	Able to pass knowledge and skills on to other workers.
Planning	The ability to establish goals, to schedule work activities and to set priorities.
Decision making	The ability to use the elements of problem solving on an on-going basis in the work place.
Problem solving	The ability to identify problems and come up with solutions.
Leadership	Able to assume responsibility and motivate co-workers.
Reasoning	The ability to use and to evaluate logical arguments.
Creative thinking	The ability to come up with innovative solutions.

Whilst there is some overlap between the two sets of findings, there are also major differences, particularly in the emphasis given to cognitive skills such as problem solving and planning as opposed to social and personal skills such as team work and multicultural skills. Table 1 shows the list of work place basics, or core competencies, that results from an amalgamation of the outcomes of these two empirical studies.

As part of the development of TRAC (described below) in the Hunter region of New South Wales the Dusseldorp Skills Forum has tested the importance that groups of employers attach to young people having these core competencies in the Australian context, and has empirically assessed the extent to which they are implicitly embedded in a competency based curriculum designed to develop entry level skills for the service sector.

The findings confirm, not unexpectedly, that Australian employers, like those overseas, regard core competencies as important in young people entering the work force. But of even greater importance is their view that many of these are in fact strongly embedded in the delivery of a curriculum designed to develop entry level skills specified in competency terms. The outcome of the exercise demonstrates a strong parallel between standards specified by industry and taught in the work place and the traditions of general education.

Past Problems, Past solutions

In practical terms the new fusion that is required to meet individual and industry needs must be translated into better ways of schools, the work place, TAFE and non-government providers ensuring in partnership against a common credentialing and assessment framework. Australia has had considerable experience with several combinations of school, the work place and TAFE, and it is useful briefly to review this experience against both the objective of increased participation and the need for new fusions of what at present are largely separated domains of learning.

In the first place, it is clear that major resource constraints prevent any one institution by itself being able to create sufficient places of the right type to meet either targets or needs.

Whilst schools are widely dispersed geographically, they generally lack either the specialised teaching, capital or equipment resources needed to develop many occupational competencies, and their classrooms are greatly restricted in their capacity to develop and demonstrate the occupational relevance of competencies valued in the real work place.

TAFE colleges are relatively few in number compared to the number of schools offering upper secondary programs and are not easily geographically accessible to many sectors of the Australian population. As school retention rates have risen participation in TAFE by the post-compulsory group has declined (in 1988 there were only 89 15-19 year olds participating in TAFE for every 100 participating in 1982[13]) despite participation by adults having grown sharply over the same period. Increasingly TAFE's priorities are being directed towards the need to assist in work place reform and to meet the training needs of the existing work force.

Whilst TAFE courses generally are constructed to meet industry skill needs, TAFE has limited expertise in combining these with elements of general education or personal development.

The quantum of full-time paid employment for teenagers to which coherent skill development might be attached has shown a long term tendency to decline rather than to grow. The current recession has seen yet another sharp contraction in the teenage labour market, with more than one in five of all full-time jobs held by 15-19 year olds disappearing between February 1990 and February 1991[14].

The Australian labour market has also shown a persistent reluctance to attach recognised skill development to paid teenage employment:

Despite growth in apprenticeship numbers between 1983 and 1989, the total number of apprentices in training as a proportion of the 15-19 year old population has remained stable at around ten per cent[15];

Roughly three quarters of all those teenagers who do hold a full-time job are not involved in part-time education and training;

Although part-time employment among teenagers has grown dramatically since the mid 1960s, these jobs provide little in the way of coherent broad based skill development that can be translated into later labour market benefit[16] and are not integrated with students' full-time education programs.

Our experience of these several institutions - schools, TAFE and the work place - working in tandem also suggests that past solutions are not in themselves adequate solutions for new needs or new targets.

Schools and work

The most common outcome of calls for closer co-operation between schools and industry have been programs that aim to: improve students' understanding of work through activities such as career education and work experience; increase employer involvement with the activities of the school; and increase students' understanding of the values of the business world[17].

Responses based upon students learning **about** work are exemplified in the new Victorian Certificate of Education with all students being required to take a course in Australian Studies, half of which is the study of work in Australian society.

Approaches which emphasise learning **about** work by observation and reflection cannot meet the need for students to learn **to do** work, and to acquire competencies that are recognised by industry.

Schools and TAFE

Joint programs between schools and TAFE have been a second major approach to linking schools to the needs of the work place. The extent of such arrangements varies from State to State, but TAFE courses are generally undertaken by only a small proportion of all students. In New South Wales, Queensland and Tasmania, where reasonable data are available, around 10 per cent of Year 11 and 12 students are enroled in TAFE courses.

The potential of such arrangements to expand is limited by resource constraints, by the higher priority that most TAFE systems are now giving to industry training, and by the limited geographical spread of TAFE colleges

compared to schools. But regardless of resource constraints joint courses between schools and TAFE lack the essential element of work based learning needed in high quality vocational preparation programs.

TAFE and work

The combination of learning in TAFE (or its equivalent) and in the work place is the fundamental model of apprenticeship and the Australian Traineeship System. For reasons of both supply and demand it is unlikely to be a model that can form the basis of a substantially expanded initial vocational preparation system:

> the quantum of paid employment to which such arrangements can be attached is shrinking rather than growing;
>
> a small but rapidly growing proportion of the employment that is available for such arrangements is being allocated to adults rather than to young people in the case of apprenticeship;
>
> as school retention has grown apprenticeship in its traditional form appears to have become less attractive to young people, and thesis matched by frequent employer comments on what appears to be a decline in the quality of young people presenting for apprenticeships[18];
>
> drop out rates from traineeships are unacceptably high, particularly among the group for whom they were designed[19], suggesting significant consumer resistance to the product on offer. The rate of growth in commencements also suggests that, whilst ATS can be a useful component of an overall vocational preparation system, its capacity to form the basis by which new needs and new targets are met is limited.

There are also qualitative reasons for arguing that the apprenticeship and ATS model, in its present form, is an unsatisfactory basis for the meeting of new needs. These hinge upon the narrow focus of the curriculum - its lack of integration with general education and personal development - and its present lack of integration with senior secondary certificates which the

community increasingly appears to be valuing as a qualification for the majority of the cohort.

New Problems and New Solutions

Both the educational needs of students and the needs of industry for competence in its most broadly defined sense argue for a new national strategy to meet new targets for vocational preparation. This new strategy must be one which combines general and vocational education, which has the school and the work place as its two major elements, and which occurs within a common framework of certification.

These arguments based upon need are supported by pragmatic considerations that are based upon resources: schools and work places are located within nearly all Australian communities, are the most accessible resources for young people. Furthermore the community has accepted the view that young people who wish to enrol in schools have a right to do so, but it has yet to accept the same arguments about access to TAFE, to apprenticeship or to traineeships.

TRAC: A model for the future

Key features

Since mid 1989 the Dusseldorp Skills Forum has been developing TRAC in the Hunter region of New South Wales as a national pilot program designed to test and demonstrate new principles in initial vocational preparation. Two large competing regional shopping centres are the principal focus of the program. These contain firms from the retail, financial services and hospitality industries which to date have been the focus of the program. In its first twelve months the pilot program involved 78 young people spread over two intakes, a total of 8 high schools, 56 firms spread over 76 work sites, and 123 employees at these sites. Currently 36 students drawn from 12 high schools are enrolled. TRAC is now offered to senior high school students as a component of their program of study for the Higher School Certificate. It has been accredited in the Hunter region as a two unit Other Approved Studies course able to be taken by Year 11 and 12 students.

Students who enrol in TRAC spend one day each week in the course over the full school year. Two thirds of this time is spent in the work place.

The basic framework of TRAC is a combination of school, work and training. The goal of this combination is the development of personal and occupational competencies that are valued in a set of related industries. TRAC focuses upon skills that are important for young people at the point of entry to these industries, rather than upon the skills required of experienced adult workers.

TRAC has a number of key features which in combination amount to an approach to meeting both industry's and young peoples' needs that is distinctive in Australia.

The skills developed in TRAC are common to several industries rather than to individual industries or to particular jobs.

TRAC is targeted at students in terms of interest and motivation rather than academic ability. Its target is neither those aiming for higher education nor those regarded by schools as academic under-achievers. Students enter the course through a selection process, with a teacher, an employer and an existing worker forming the selection panel.

The curriculum is competency based, has been developed by industry, and encompasses general education, industry knowledge and awareness, personal and interpersonal skills, career development and occupational competencies.

Within each participating work place a nominated worker, termed a TRAC Assistant, is responsible for teaching and assessment. This is designed not only to ensure that students learn in the work place. An equally important intention is to widen the skills of existing workers in on-the-job training, and to foster a training and skill development culture within participating firms.

Students are systematically rotated through a variety of work places, and in each of these learning occurs against a clearly agreed skills schedule. This on-the-job learning is supplemented by training in TRAC's off-the-job centre, and by project work undertaken by

students working in teams. Training provided in the TRAC Centre concentrates upon those skills that cannot adequately be taught in the work place. Project work concentrates upon developing those core competencies that are not addressed sufficiently elsewhere in the curriculum.

Students undertake one placement each school term, and are formally assessed at the end of each placement. A post-placement debriefing is conducted both with the student and with the work place.

Students take an accredited Higher School Certificate course. They also receive recognition from industry, in the form of a certificate issued by the Newcastle Chamber of Commerce and Industry, as well as advanced standing in TAFE. In-principle agreement has been reached with the New South Wales government that TRAC graduates will be able to receive advanced standing in traineeships, and both the retail operations and financial services traineeships are currently being discussed.

There is a full-time program co-ordinator, located in a TRAC Centre adjacent to one of the participating shopping centres, who manages the delivery and assessment of all structured learning, both within the work place and off-the-job, as well as being responsible for monitoring and quality control and for providing personal support to the students who are enroled.

There is a program management committee made up of education, industry and community leaders.

Participants have the legal status of students and are covered by the legal and protective arrangements applying to work experience programs.

Employers contribute roughly 50 per cent of the program's recurrent costs through a quarterly program fee of $150 per participant, and do not attract either wage subsidies or other forms of subsidies. Young people who participate do so as learners rather than as productive workers.

What has really made it work?

A key element in the design of TRAC is its flexibility. It is important to separate out those elements that are basic principles from elements that are capable of being varied to meet different circumstances and needs. Core elements of TRAC are:

Ownership is shared among the several parties who participate, with management by an independent group, and a funding model that emphasises partnership rather than client relationships.
A full-time co-ordinator is independent of either schools or employers, and can fulfil both management and caring roles.

Industry has a real sense of ownership through its participation in curriculum development, assessment, and certification as well as through contributing directly to operating costs.

The curriculum is competency based, with a clear understanding by all parties of the location of responsibility for teaching and assessment.

Learning occurs in the work place, as well as in off-the-job settings, enabling its relevance to the real world to be demonstrated and tested.

The curriculum emphasises generic personal, social and cognitive competencies as well as job specific skills.

Students are able to monitor their progress and receive a record of all competencies gained.

Credit is negotiated into post-school education and training options.

The targeting is appropriate to the needs and interests of the student body.

The student selection method and the presentation of the program promote the message that it is a quality option, rather than a dead end stream for under achievers.

Monitoring and quality control reinforce this message.

Rotation provides both variety for the student and enhanced skill development, and shared instructional responsibility among employers.

Flexibility in Implementation

Essentially TRAC is a model designed to meet varied circumstances, and not a prescriptive blueprint. Within the core principles there are a number of features that are readily able to be varied.

The industry and occupational focus of TRAC is able to be extended widely, and need not be restricted to the service sector. To date the model has attracted attention from the construction industry, the automative trades, and manufacturing process industry in addition to the retail, finance and hospitality industries in which it originated. Interest has also been shown in its application within information processing and office technology.

There is nothing intrinsically fixed in the twelve month course length. Depending upon the length and depth of the curriculum and the level of the skills to be acquired it should be able to be offered over varying periods within the final two years of high schools. In the case of discussions that have been held on its application to manufacturing industries, for example, the model can readily be seen as extending over all of Years 11 and 12. In the ACT a model involving full-time participation in TRAC for one semester following a semester of attendance one day a week has been considered.

This element of flexibility has much in common with the vocational lines in Swedish upper secondary schools, which extends over varying periods of time.

The attendance pattern currently incorporated in TRAC need not be fixed. In the United States, where TRAC is currently running in Lancaster, Pennsylvania, students attend TRAC for half of each school day and school for the balance of their educational program. Similarly the balance of time spent in school, in the work place and in learning in off-the-job settings such as TAFE can be varied according

to the demands of the curriculum and the resources available within particular localities.

Whether or not TRAC programs are accredited for higher education entry can vary according to the nature of the curriculum and according to policies and practices within particular State systems. In its present form in the Hunter region it does not accumulate credit for higher education entry, like most Other Approved Studies courses. However discussions that have been held with the Victorian Curriculum and Accreditation Board suggest that within that State's curriculum framework TRAC could be a vehicle for delivering substantial components of study designs that are accredited for higher education entry.

Putting the Strategy into Place

The national goal should be to set the directions for growth and for change by the turn of the century, rather than to believe that major change will be accomplished in the short term. For the new integration between general and vocational education, and the new partnership between schools and the work place to become a reality, as it has in a country such as Sweden, a number of preconditions must be met, and answers must be found to a number of key issues. In some cases solutions are best sought at the local level. In others State or national level agreements may be needed to allow the dissemination of regionally tested models.

At the regional and local level, centres must be identified or established that are able to act as independent brokers between schools and individual work places. Independence, flexibility and partnership are the keys to making these centres effective. In the case of TRAC, the TRAC Centre has been established as a separate legal entity. However the co-ordination of programs that allow students to move easily across the boundaries separating schools from the work place can also be attached to a number of existing structures and institutions. These include the group scheme network, Industry Training Advisory Bodies, community groups such as youth centres, employer organisations and chambers of commerce, unions and skill centres. This list is not coincidental, as to date all have expressed interest to the Dusseldorp Skills Forum in adopting the TRAC model.

In all such centres the capacity of the program co-ordinator demonstrate independence and to combine both a management and a caring and protective role will be central to success.

In each occupational or industry area in which programs are offered a competency based curriculum must be developed in which there is a clear allocation of responsibility for teaching and assessment between the school, the work place and TAFE or its equivalent. In some instances it may be necessary to develop such a curriculum from scratch. In other cases existing school or industry developed curriculum may readily be able to be adapted to suit new needs. It is clear, for example, in manufacturing industry, that the recently developed broad based metals and engineering modules are an ideal vehicle for such programs. There are also cased in which courses developed by schools can be adapted to new circumstances and new delivery modes with minimal difficulty. An excellent example is the Computer Studies course accredited by the New South Wales Board of Studies.

In all cases it is essential that there is strong industry participation in the development or adaption of the curriculum, and in decisions on the most appropriate location of responsibility for teaching particular skills. The Forum's experience with TRACE, as well as Western Australia's experience in developing the New Apprenticeship Training and Assessment System, has shown that the use of a modified DACUM technique can result in this process being quick, cheap and effective.

Mechanisms must be in place for supporting those who teach skills in the work place, together with means of widening and recognising their on-the-job instructional skills. A simply expressed competency based curriculum is one of the most important of these mechanisms. The TRAC experience has shown that many workers are unaware of their potential teaching skills until provided with such a curriculum, and can find its application a personally enriching experience.

There must be agreement on funding models that share resources and costs between industry and government. Such agreements need to recognise the contribution made by industry in teaching within the work place.

There will be cases in which funding agreements need to recognise the reduced cost to industry, compared to models such as apprenticeship and traineeship, of developing recognised skills under a model which assumes the young person to be a learner rather than a productive worker.

Funding agreements will also need to recognise the reduced teaching costs incurred by schools as the result of students spending a proportion of their school program learning in an environment other than the school.

Experience with TRAC has shown that individual schools and regional school administration can readily accept the educational validity of the work place as a locus for teaching, learning and assessment. The example of Sweden suggest that the wider dissemination of such a model can be flown from peak level agreement on the principle between school systems and the teaching profession.

In the same vein, wider adoption of the model will be helped by discussion between unions and employers on issues such as the point, if any, at which students enroled in such courses can fairly be regarded as contributing to firms' productivity, and as such move from the status of learner within the work place to paid worker.

Agreement on these issues will be aided by a wider understanding of the concept of training wages, and of the need for a clearer differentiation between these and the wages paid to junior workers not engaged in a teaching and learning relationship in the work place[20].

Unions will also want assurance on issues such as protective arrangements and displacement of existing employees. The experience of TRAC has shown that such potential concerns can more readily be addressed through the existence of a full-time program co-ordinator who has a clear role in monitoring and caring.

Equally important is the existence of a competency based curriculum which assigns a clear teaching role to the work place, and the negotiation prior to each placement of what is to be taught and assessed from the curriculum. Taken together these provide a clear

signal that the relationship is a teaching and learning one, rather than one based on the concept of productive labour.

Appropriate accreditation and certification arrangements are required so that students can receive recognition for their studies both through the school system and from industry. As indicated previously, whether or not courses of study using the TRAC model are to be accredited for higher education entry is a matter to be decided on a case by case basis rather than prescribed in advance.

Credit transfer issues will need to be addressed, as well as the question of the extent and nature of credit to be given within apprenticeships and traineeships. In the latter two cases the issues of the financial recognition after leaving school of skills gained whilst a student will arise.

Meeting new needs and new targets will require a new mode of thinking about the relationship between schools, TAFE and industry - a mode of thinking based upon the concept of a partnership in the interest of the student, rather than one based on the parties being clients of one another. There are some things that governments can do to assist the process, including promoting and disseminating ideas and providing seed funding. But the experience of the past has shown us that perhaps the most useful step for governments is to accept that the real ownership of such a new system, expressed in concrete terms through funding and skill recognition issues, cannot rest with them, but with the parties who must make it all work.

FOOTNOTES

[1] The small size of Australia's initial vocational preparation system, particularly compared to those of our economic competitors, is set out in Sweet, R. Initial vocational preparation: Facts and issues; costs and benefits. *Training Costs of Award Restructuring: Report of the Training Costs Review Committee.* Vol. 2, Canberra: Australian Government Publishing Service, 1990, 221-252. The economic case for a strong vocational strand in national education systems is put forcefully in Porter, M. *The Competitive Advantage of Nations.* London: MacMillan, 1990. The impact of extensive and coherent vocational preparation systems upon the

productivity levels of firms is demonstrated in a convincing set of case studies comparing the productivity of matched British and German firms in the engineering, hospitality, clothing and furniture making industries. The collected studies are reprinted in *Productivity, Education and Training: Britain and Other Countries Compared.* London: National Institute of Economic and Social Research, 1989. Students' desire for a more practical and vocational approach to the post compulsory curriculum is a clear theme in a number of Australian reports which appeared between the mid 1970s and the mid 1980s. Two examples are Anderson, D., Saltet, M. and Vervoon, A. *Schools to Grow In.* Canberra: ANU Press, 1980 and *School and Beyond: School Leavers' Perceptions of the Relevance of Secondary Education.* NSW Department of Education, 1985.

[2] *The School Industry Links Programs in Sweden and Britain.* South Australian Department of Education, 1989.

[3] Ashenden, D.(1988) in an unpublished report on an overseas study tour prepared for the Dusseldorp Skills Forum.

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[5] Examples include: d'Iribarne, A. New training and new skills in new factories. *Vocational Training,* 1987, No. 1, 7 - 12; Eliasson, G. and Ryan, P. The Human Factor in Economics and Technological Change. *OECD Educational Monographs* No. 3, Paris: OECD, 1987; Bertrand, O. and Noyelle, T. *Human Resources and Corporate Strategy. Technological Change in Banks and Insurance Companies: France, Germany, Japan, Sweden, United States.* Paris: OECD/CERI, 1988; and Ford, G. W. *Rethinking Skilling for a Restructured Workplace.* Commission for the Future, 1990.

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[10] Eliasson and Ryan *op.cit.;* Mollemann, J. (1988) The further education and training of adults. Introductory statement to an Intergovernmental Conference on Education and the Economy in a Changing Society, Paris: OECD, Carnevale, A. P. (1990) *Workplace Basics: The Essential Skills Employers Want*. San Fransisco: Jossey-Bass, Levin, H. and Rumberger, R. (1989) Education, work and employment: Present issues and future challenges in developed countries. Presented at the XXVth Anniversary Conference of the International Institute for Educational Planning.

[11] Levin and Rumberger *op.cit.*

[12] Carnevale *op.cit.*

[13] Department of Employment, Education and Training (1990) *Education Participation Rates Australia 1989.*

[14] Australian Bureau of Statistics *The Labour Force Australia*. Cat. No. 6203.0.

[15] Sweet, R. (1991) Post-complusory education and training: A preliminary look at some facts, trends and issues. Paper prepared for the AEC review of Post-compulsory Education and Training, Dusseldorp Skills Forum.

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Research, Australian National University and Department of Employment, Education and Training.

[17] Cumming, J. (1987) Developing effective co-operation between education and industry. *Bulletin of the National Clearinghouse for Youth Studies.* 6 (2), 7 - 11.

[18] Sweet, R. 1990 *op.cit.*

[19] Comparison of data contained in Commonwealth Budget Related Paper No. 8.6A for 1989 - 90 and No. 6.6A for 1990 - 91 shows that in 1988 - 89 39 per cent of commencing trainees dropped out before completion. Among those who had left school prior to completing Year 12 the drop out rate was 45 per cent.

[20] Material prepared for the Training Costs Review Committee by the Dusseldorp Skills Forum (Sweet, 1990 *op.cit.*, Table 8) shows that in the major apprenticeable occupations in which 15 - 19 year old males are found, junior earnings represent on average 56.5 per cent of adult earnings. In the major non-apprenticeable occupations, junior earnings represent 55.5 per cent of adult earnings. These results strongly imply that, when compared to occupations in which formal structured training is not provided, apprentice wage rates contain no apparent discount to reflect either the status of the employee as a learner rather than a productive worker, or the resources expended by the employer in training the young person.

EDUCATIONAL CHANGE IN NEW SOUTH WALES: RURAL TEACHER REACTIONS AND RURAL DEVELOPMENT

Colin Boylan
Charles Sturt University-Riverina
Wagga Wagga

Teacher Expectations and Changes in Educational Policy

In 1988, the Minister for Education and Youth Affairs commissioned two major reviews of the New South Wales public education system. The first of these reviews, the **School Renewal Strategy** (1989) and the **School-Centred Education** report (1990) conducted by B. Scott, considered the organisational structure and administrative functions of personnel within the then New South Wales Department of Education. The second review, the **Report of the Committee of Review of New South Wales Schools** (1989) conducted by the Hon. Senator J. Carrick, focussed on the development of a new statutory Public Education Act which detailed the functions and purposes of schooling, the registration and accreditation of schools and the conditions of employment for teachers employed in the public education sector.

A number of important changes were contained in the **School-Centred Education** report, commonly known as the Scott report. The Scott report found that there was a 'high level of dissatisfaction throughout the Department with the rigidity and impersonal nature of long-established staffing policies, practices and procedures' (Scott, 1990, p. 96). Suggestions from that report included phasing out of centralised appointments and replacement with selection and appointment at the local level, the phasing out of the transfer points system over three to five years while at the same time reserving for teachers in 'difficult-to-staff' schools 10% to 20% of places to guarantee relocation from these difficult-to-staff schools. Scott's view was that the points system neither promoted equity, nor was 'at all conducive to the provision of high quality education throughout the state' (Scott, 1990, p. 100). The review stated that with the introduction of local selection, a better match would occur between teacher characteristics and local needs. It was Scott's opinion that 'as more School

Councils are established throughout the State, the opportunities for parents and teachers to work together in "difficult-to-staff" areas will increase. Improvements in the climate of support will help build a more stable and cohesive staff in these schools' (Scott, 1990, p. 101). The report went on to suggest that ranges of incentives such as: i) additional salary payments; ii) travel and accommodation allowances; iii) professional development opportunities; and iv) guarantees of preferred region relocation would all help to improve substantially the quality of schools in many disadvantaged locations (Scott, 1990, p. 101). Scott's view was that these incentives were designed to effect a new deal for both teachers in isolated localities and schools in 'difficult-to-staff' locations.

These changes significantly altered the way in which the staffing practices of the New South Wales Department of Education had operated for a considerable time and the expectations held by teachers in rural areas regarding a future appointment.

Carrick (1989) in **Report of the Committee of Review of N.S.W. Schools** emphasised the need for more adequate training of teachers for rural school positions (Carrick, 1989, p. 115). The report also raised issues relating to teacher induction, support and in-service. He further suggested that 'across the board' recruitment was inappropriate and made a range of suggestions relating to the recruitment and staffing of these schools. Drawing from the information presented by rural teachers to him during the regional consultancy visits, Carrick noted that 'coping with isolation, either geographical, cultural, social or professional, was a problem for many of these teachers' (Carrick, 1989, p. 117), and 'the high turnover of teachers is a major concern ... in remote areas who feel that staffing stability is an important factor in quality of education' (Carrick, 1989, p. 117).

Coupled with the two externally commissioned reports on the New South Wales Department of School Education, the then newly elected Minister of Education and Youth Affairs initiated a series of internal reviews by the Department of School Education in 1988. In particular, two reviews were released in 1989 which affected teachers in rural areas. These were: i) **Rural Schools Plan** (Metherell, 1989(a)); and ii) **Excellence and Equity** (Metherell, 1989(b)). Under the **Rural Schools Plan** (Metherell, 1989(a)), a number of the issues raised in the Carrick report (1989) relating to staffing policies in rural schools were addressed. Specifically, additional executive teachers have been appointed to some Central Schools to give added

leadership and experience to assist teaching principals with infants' and primary classes' supervision. Under this plan, whole school staffing in Central Schools is being encouraged to enable primary and secondary teachers with special skills, training and experience to teach across grades from Kindergarten to Year 12 (Carrick, 1989, pp. 117-119). Further, an increase in recurrent financial support for rural schools was implemented which was designed to alleviate the additional costs associated with teaching in rural locations.

Concurrent with these reviews, a further change that had a significant influence on the staffing operation of the Department of School Education was introduced. This change pertained to the staffing formulae for schools which saw an increase in the overall state student : teacher ratio. As a consequence, the number of teachers working in each high school, central school, and primary school across the state was reduced for the commencement of the 1989 teaching year. The size of this decrease for 1989 in teacher numbers can be seen in Table 1 for both the Riverina region (10.4%) and for New South Wales (3.8%). In some cases, it was only a fractional loss while, in the case of large high schools and primary schools, up to three teachers from each school were a 'forced transfer' out of the school.

TABLE 1

NUMBER OF SCHOOLS AND TEACHERS IN THE RIVERINA REGION AND IN THE STATE (1988 AND 1989)

Type School	Riverina Teachers		State Teachers	
	1988a	1989b	1989c	1989d
Primary	1241	1064	23,474	22,774
Secondary				
*Central	147	130	795	760
*High	1194	1120	24,188	23,319
Total	2582	2314	48,724	46,853

Sources:

a. = **1988 Annual Report,** N.S.W. Department of Education-Riverina Region.
b. = **1989 Annual Report,** N.S.W. Department of School Education-Riverina Region.
c. = **1988 Annual Report,** N.S.W. Department of Education.
d. = **1989 Annual Report,** N.S.W. Department of School Education.

Rural Teacher Expectations

A long-term problem for educational administrators in New South Wales has been the staffing of schools in remote rural areas of the state (Boylan, et al., 1989). For many years, remote rural areas of the state were staffed by bonded teachers in their first few years of service, while promotion positions were usually filled by teachers in their first promotion as a quick step onto the bottom rung of the promotions ladder. The determination to provide equality of opportunity to as many students as possible in New South Wales has long been a motivating force for successive New South Wales governments since the 1870 Education Act.

With the phasing out of Teachers' Scholarships, and thus bonding, in the mid 1970's, this supply of teachers dwindled. At the same time as, there was a general over-supply of teachers which meant that there were teachers prepared to accept an appointment to a rural area to gain immediate employment.

For a variety of reasons, there have been teachers who remained in these rural communities. These teachers gave some stability to school staffing and continuity in educational programmes to their students. For those teachers who did not stay, the completion of country service gave them the option of transferring to some more favourable part of the state. Teachers in rural locations held the expectation that, when the time came for them to seek a transfer, the Department of Education would appoint them to a school in their preferred location.

Over the past decade the decrease in school population and an over-supply of teachers (Scott, 1990) have combined to make these expectations more

difficult to fulfil. To overcome this problem, both the Teachers' Union and the Minister of the day began working on the concept of a points system for schools in 'difficult-to-staff' areas which provided teachers who gained the highest number of points, greater access to desirable transfer locations.

These changes in educational policy ended the traditional staffing practices of the New South Wales Department of Education and the expectations held by teachers in rural areas regarding a future appointment to their preferred location. Further, when the recommendations on devolution of ultimate power in terms of teacher selection and retention procedures to the school community and its Principal were accepted and implemented, one scenario arising from these changes which concerned rural teachers was that it was conceivable that teachers in rural schools would be forced to remain in those schools for many years.

In this study, the opinions and responses of long-staying rural teachers formed the basis for the identification of issues, concerns and reactions to the educational changes occurring within the New South Wales education system.

Reactions to Change: Teachers, Unions and Parents

By the middle of 1989, the consequences of the changes recommended in the two external reports, the changes recommended in the two internal reports and the changes in staffing formulae created widespread concern and provoked strong reactions from the New South Wales Teachers' Federation, the Principals' Councils (Primary and Secondary), the Parents and Citizens Organisation, and from individual teachers. The net result of these changes was to create an atmosphere of uncertainty in schools and in rural teachers about the future direction of education in inland New South Wales. To provide further quantification of the effect of these changes, teacher turnover rates for the state, each inland region and the regional long-stay teachers who gained a move (either transfer, promotional or promoted appointment) from their present school to another school are reported in Table 2. These figures are for the year 1989/1990.

TABLE 2

TEACHER TURNOVER 1989-1990

State %	Riverina Region %		Western Region %		North-West Region %	
All Teachers	All Teachers	Long-Stay Teachers	All Teachers	Long-Stay Teachers	All Teachers	Long-Stay Teachers
12.4	15.8	22.0	17.7	36.7	12.6	22.4

Source: Boylan, *et al.* (1991)

These 1989/90 figures indicate that: i) teacher turnover in the three inland regions was higher than that for the state; ii) Western region teacher turnover figures were the highest for the three inland regions; and iii) long-staying teacher turnover figures were higher than the associated regional figure and the state figure.

Long-stay Teacher Characteristics

A group of long-staying rural teachers (N=140) were selected for interview during the latter half of 1989 and the first half of 1990. Boylan, et al., (1989, 1990) provided a full description of these teachers. A brief synopsis of selected long-staying rural teacher attributes and attitudes included:

i) on average, these teachers were 40.3 years, had 16.98 years teaching experience if they were primary or 15.4 years teaching experience if secondary;

ii) teachers had taught at their present school for, on average, 11.4 years;

iii) nine in ten teachers (90%) reported moderate to high levels of satisfaction with teaching. The main sources of satisfaction were relationships with students then relationships with fellow teachers;

iv) almost all teachers (96%) reported moderate to high levels of commitment to teaching;

v) over half of the teachers (56.7%) did not plan to transfer in the foreseeable future;

vi) about three-quarters of the teachers (73.4%) do not plan to leave teaching;

vii) almost three-quarters of the teachers (71.0%) believed a) the community valued their work; and b) their participation in community matters (76.5%);

viii) the main reasons why the teachers had chosen to remain were: a) work related (40.7%); and b) personal choice (33.6%);

ix) the main advantage of living in a rural area were a) quality of the rural lifestyle afforded to the teacher (63.7%); and b) the clean environment (17.1%);

x) teachers stated that the following school influences had contributed to their decision to remain: a) good relationships with students; b) lack of discipline problems; c) good communication with parents; d) support from staff; and e) school size;

xi) teachers stated that the following community influences had contributed to their decision to remain: a) good social relationships with the community; b) healthiness of the rural lifestyle; c) acceptance by the community; d) quality of their own accommodation; and e) level of public order and safety; and

xii) about three quarters of the teachers (70.6%) considered themselves to be a local resident.

Attitudinal characteristics for this group of long-staying teachers were found to be consistent with findings reported by Watson, et al., (1989) for teachers in their second years of teaching in rural schools and with results of the Sinclair, et al., (1989) study of Western region teachers working in all nineteen Central schools.

Long-staying Teacher Views on Recent Educational Changes

During the interview, long-staying teachers were asked for their reactions to the changes being implemented through the **School-Centred Education** report (Scott, 1990). This report generated many, varied teacher reactions and responses. Frequently mentioned issues raised by these teachers included:

i) development/establishment of School Councils;

ii) whole school budgeting;

iii) autonomy for schools;
iv) teacher tenure;
v) the review process;
vi) teacher mobility/transfer;
vii) school level interviewing for the appointment of teachers; and
viii) staffing of rural schools.

An analysis of teacher responses on each of these issues will be explored. It is worthy to note that 67% of the teachers (N=94) expressed concern over the pace and the nature of the changes being implemented. For another 10% of the teachers (N=14), their reaction was to adopt an attitude of indifference to the **School-Centred Education** report. (e.g. comments such as: *'it won't affect me directly'*; *'not concerned about it'*; and *'it won't happen'*.) Many teachers had heard/read about some of the changes but were not conversant with the **School-Centred Education** report.

1. School Councils

Teachers saw both positive and negative consequences of introducing school councils. 10% of teachers' comments focussed on beneficial aspects (e.g. *'good community reaction to the idea'* while the majority of comments (90%) expressed reservations and concerns about the idea. These included:

i) difficulty in gaining full community support in small rural areas;
ii) potential to over work parents on the Council;
iii) concern that a particular, ethnic, ethical or religious group could dominate the council to the detriment of education in the school; and
iv) questioning whether parents really want a School Council.

2. Whole School Budgeting

Two in five teachers (40%) saw a number of good points flowing from allowing schools more control over financial expenditure. In particular, the opportunity for schools to direct funds into priorities determined at the school level and the belief that it would promote more efficiently managed schools, were frequently mentioned advantages.

The remaining three in five teachers (60%) expressed negative comments. These included: i) a perception that the Principal would have extra administrative workloads; ii) the principal would be seen less in classrooms and more in the office by staff and students; iii) interdepartmental rivalry for resource allocation in high schools; and iv) regarded as a cost cutting exercise by the Department. Comments such as: '*I wouldn't like to be in his (the Principal) shoes*'; '*Principal will become an administrator not an educator*'; *'It will increase stress on principals*'; '*need to set up committees for financial management*'; and *'a cost cutting exercise'* indicate the range of concerns expressed by teachers.

3. Autonomy for Schools

The majority of teachers' comments (N=102, 73%) approved of this change. They believed this change would allow schools to develop more specialised programmes to meet the needs of their students. Comments such as *'a good idea'*; and *'it will allow the school the opportunity to pursue perceived needs in the school and the curriculum'* were made by the teachers. Some teachers were more cynical about this change. They believed that there would be very little difference in the school and how it provides education to the community. Their comments included: '*not giving any autonomy at all*' and *'doubt if it will change'*.

4. Teacher Tenure

The issue of limited tenure for teachers (10 years) and executive staff (5 years) generated considerable information. Almost half of the teachers (N=66, 47%) expressed concern through to open hostility to this change, a further two in five teachers (N=56, 40%) supported the move and the remaining one in seven teachers (N=18, 13%) saw both potentially good and bad aspects to the idea.

Positive aspects mentioned by the teachers included '*Keep teachers on their toes*'; *'limited tenure for promotion position is good*'; and '*a way of removing the teacher who has stagnated*'. Negative comments centred on the issue of permanency and transfer rights e.g. '*removes the sense of permanency*'; and '*concerned that I will never be able to transfer out of a rural school*'.

This concern for transfer rights was not shared by all teachers. In fact, some teachers expressed the belief that one positive outcome of limited tenure would be to make access to prime areas, e.g. South Coast or North Coast of New South Wales easier for rural teachers. Some teachers reported that they had heard about limited tenure but did not know about the changes in any detail.

5. The Review Process

About two in five teachers (N=59, 42%) were uncertain about the review process and how/when the review of positions would be conducted. Some (N=11, 8%) felt it would be beneficial to their teaching to have a panel of people appraise their performance in the classroom. Other teachers felt the review process could discriminate against the long-staying teacher. Some additional teachers (N=14, 10%) expressed concern about the composition of the review panel. Many teachers (N=56, 40%) said they lacked sufficient information to form an opinion on the review process.

6. Teacher Mobility/Transfer

Generally, teachers supported the existing Transfer Points System. Some felt it should be strengthened especially in remote rural areas. Approximately 60% of the teachers (N=84) felt it offered a guarantee to them to transfer out of their present school at some time in the future when they decided it was time to move.

Further, other teachers (N=20, 28.6%) felt that if they did not use their accumulated points in the 1990/1991 staffing operation, they would be trapped into their present rural school for a long time with little prospect of transferring to their preferred area (often the South Coast or the North Coast).

7. Rural School Staffing

One in ten teachers (N=14, 10%) expressed concern for the staffing of rural schools once the **School-Centred Education** report was fully implemented.

They believed that rural schools would be staffed by teachers who were either first appointment teachers or were unable to secure a coastal teaching position. In both situations, the long-staying teachers perceived the potential for a two tier education system developing: i) the coastal schools staffed by experienced, competent good teachers; and ii) the rural schools staffed by inexperienced teachers or teachers who accepted the rural appointment as a 'holding position' until something else came up. Some additional teachers (N=13, 9.3%) believed the Department would have to develop incentive packages to attract teachers to the rural schools.

It was interesting to note that almost one in five teachers (N=26, 18.5%) expressed support for the existing centralised staffing operation. They believed it treated everyone '*fairly and equitably*'.

8. School Level Interviews for Teacher Appointment

A total of 281 comments were made by the 140 long-staying teachers about the changes to the way in which staff are appointed to schools. Overall, their responses were characterised by:

i) a concern that the good teacher and not the good interviewee was appointed to the school;
ii) a concern that these changes could exacerbate the staffing problems of rural and especially remote rural schools; and
iii) a concern that biases and nepotism practices could become evident in the way some schools selected staff.

Consequently, the majority of teachers (N=119, 85%) did not favour the introduction of school level interviews for teachers.

Insecurity about Educational Changes

To summarise, these teacher comments on some of the key element of the **School-Centred Education** report, it is suggested:

i) the majority of teachers expressed some concern or reservations about the nature of changes;
ii) many teachers felt too many changes were occurring too quickly;

iii) teachers were unable to keep up with the information flow regarding these changes;

iv) teachers often formed opinions on little or no real information - rather on hear-say from colleagues; and

v) the changes created the situation for the long-staying teachers that they had to re-appraise the decision to remain in the rural school.

In Table 3, a summary of the teacher reactions to the key issues raised in the interviews is presented.

TABLE 3

TEACHER REACTIONS

Key Issues	Teacher Reactions
1. School Councils	90% concerned
2. Whole school budgeting	60% negative
3. Autonomy for school	73% approve
4. Limited tenure	47% concerned
5. Review process	42% negative
6. Teacher mobility/transfer	60% supported existing staffing system
7. Rural school staffing	45% predicted rural teacher recruitment problems
8. School level interviews	85% not in favor

Possible Consequences for Rural Education and Rural Development

1. The Students

The stability in school staffing and the continuity of educational programmes are two likely casualties of an increase in teacher turnover rates. Both adversely affect the quality of education offered locally. The loss of committed and experienced teachers from rural schools is likely to see the

demise of specialised programmes for exceptional children. This could see more children being sent to private schools or boarding schools.

2. The Teachers

Rapid changes in education divert the teachers' time, effort and attention away from teaching the children to understanding and reacting to the changes. The pace of change created anxiety and concern in the long-staying teachers. The consequences included: i) a feeling of disillusionment and a loss of commitment to the organisation; ii) additional demands on their time (to the detriment of teaching); iii) a reluctance to make contributions to whole school management and organisation; and iv) a reduction in teacher morale. Further, the changes may act as a disincentive for new teachers to consider settling in the rural area.

3. The School

The pace of change, the perceived lack of consultation with rural teachers, the perceived imposition of an urban model on the restructuring of system, and the increased demands placed upon the school executive created a school environment in which teacher morale was low. Low morale has a debilitating and pervasive influence throughout a school.

The development and/or revision of school curricula, the preparedness to make a contribution to the operation of the school, and the willingness to participate in school-level decision making processes are likely casualties of low morale, uncertainty about the future and a lack of real information from regional and head offices about what is happening.

4. The Education System

King (1991) has examined in detail the outcomes of the **School-Centred Education** report (Scott, 1990) on the restructuring of the system and the conditions of employment for the senior education officers. In particular, he focussed upon the position of the Cluster Directors in the New South Wales system. The Cluster Director is the human face of the restructured system

for teachers in rural schools and the first contact point with the new education hierarchy. He found that:

i) 41% of the Cluster Directors have 4 year contracts;
ii) Cluster Directors in the three inland rural regions of New South Wales have average length of contracts less than or equal to the state average. (North-West: 3.7 year; Western: 3.4 years; Riverina: 3.9 years; State: 3.9 years.);
iii) more rural inland Cluster Directors have 3 year contracts than for the whole of the state (i.e. North-West: 44%; Western: 50%; Riverina: 33%; State: 31%); and
iv) in 1993, half of all Cluster Directors' contracts (49%) will come up for renewal. Thereafter, one-third of all contracts are up for renewal annually.

King (1991) concluded:

> A policy of setting variable contract periods within one managerial level allows the gradual phasing in of managerial expertise as policies of promotion and appointment by merit take effect. It also permits the gradual phasing out of specific categories of manager, such as Cluster Directors. One scenario would see all managers at the Cluster Director level phased out by 1995 and their role taken over by School Councils and Regional Education Centres. (p. 13).

If King's prediction comes true, then teachers, schools and clusters which have begun to develop strategies and programmes to ensure the planned and smooth implementation of the changes in the **School-Centred Education** report, are likely to experience another round of uncertainty, anxiety, concern and lack of clear direction in educational management during 1993. [It is noted that a new round of changes have been initiated by the current Minister for Education and Youth Affairs which will see a reduction in Head Office personnel from 1,100 to 300 by September 1991.]

This latest round of change and the projected round by King (1991) will cause:
i) many innovative initiatives to be "put on the back-burner"; ii) a reduction in teacher and school morale; and iii) a reduction in professional support services to rural schools, teachers and students.

5. The Community

In rural communities, the school is a significant and important part of community life. The staff represent a pool of well educated people with a large reserve of specialised skills, talents and expertise which make a significant contribution to the quality of life in the community. Often, the long-staying teacher is the catalyst to induct new-to-the-school teachers into the community and become accepted by the community. A loss of long-staying teachers has the potential to slow down the integration into the community of new teachers, remove valued skills, talents and expertise from a community with no guarantee of their replacement, and reduce community affiliation with and participation in the school's programme.

With the loss of long-staying teachers, rural communities can be disadvantaged in economic terms, e.g. less disposable income spent in the community, reduced demand on permanent housing accommodation.

Finally, communities value the stability and continuity in staff and educational programmes as a hallmark that the school is providing a good education for its children. Schools with high staff turnover, or unfilled positions create tension between the community and the school. Parents become concerned about 'the problem at the school' e.g. too many first year out teachers; the high turnover rate; and no or poor continuity in the programmes. These observations and concerns can create a public perception that the quality of education provided in the local school is inferior and poor compared with elsewhere. These perceptions then lead parents to consider seriously other educational options; e.g. boarding school; enrol in a private school; bussing child to the larger school in a bigger town/provincial city, or in extreme cases, selling up and relocating the family to another area. Once these perceptions are established within a community, it is a difficult and long-term process to dispel and eradicate these views.

The Management of Change: The Rural Case

Rural communities, schools and teachers need time to adapt to and adopt changes that are occurring in education. The information gathered from long-staying rural teachers suggested the nature and pace of the changes introduced as a result of the implementation of the **School-Centred Education** report have occurred too rapidly. Teachers have reacted

generally in a negative way to key changes such as the establishment of school councils, whole school financial budgeting, teacher tenure, the review process, school level interviews for appointment of teachers and teacher mobility/transfers. Teachers have reacted positively to the move towards giving schools more autonomy.

The Change Explosion

The origins of these generally negative reactions to the changes have been attributed to:

i) a perceived lack of consultation with rural teachers about the nature of the changes prior to their introduction;
ii) a lack of sufficient information about the changes being provided to the teachers;
iii) the development of a new educational management culture and language that appeared to totally reject the existing system and its mores; and
iv) the rapidity with which changes were promulgated.

Further, it is suggested that a new round of educational restructuring or 'fine tuning', using the Victorian Education Department's terminology, is likely to commence shortly which has the potential to create uncertainty in schools, teachers and communities.

Conclusion

The sustenance and development of rural communities depends upon:

i) a degree of stability in the government organisations;
ii) the provision of quality education locally;
iii) the commitment of teachers to the students, the school and its community;
iv) the continuity in the educational planning and programmes at the school;
v) the retention of teachers in rural schools and communities beyond the minimum appointment period;
vi) the participation of teachers in community activities;

vii) the contribution of teachers' expertise, talents and skills to enhancing the quality of community life; and

viii) the economic contribution to the local community made by the staff and the school.

Sher (1989) developed a scenario for rural education in which the school used the 'vision and leadership' (p. 12) of the people in the community as the basis for the development of a quality educational programme. He argued that when the educational programme was based on a strong school-community partnership it would 'enable them [the students] to make their choices about the future from a foundation of a positive self-image, a history of active citizenship, and a repertoire of skills that are meaningful in the world'(p. 13).

Such a vision of rural education is based upon change that originates in and through the school-community partnership rather than being based on an external imposition of educational change.

Rural development can happen through education in rural areas when teachers are encouraged to remain in rural communities for extended periods of time.

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EDUCATION IN RURAL VICTORIA IS A SOCIAL JUSTICE ISSUE

Merryl Robson
Office of Rural Affairs
Hamilton, Victoria

This paper is a tribute and appreciation to those who have had visions for innovative approaches to rural education in Victoria. The paper outlines the positive examples of how education gets done well in rural Victoria, the strategies in a Report on the Delivery of Rural Education and Training that was commissioned jointly by the Office of Rural Affairs and the Victorian Ministry for Education. Thus I am going to tell you about a 'bunch of other people's flowers', or their successes. Throughout the ways that provide education and training in rural areas, there emerges a common theme of social justice issues. It is the creative means of overcoming disadvantages, not only for rural Victorians generally but for the small communities in particular, and the ways that work for women, that will form the basis of this paper.

Social Justice is a guiding principle for this Government and particularly the Office of Rural Affairs. The Office of Rural Affairs aims to 'facilitate the development, co-ordination and promotion of initiatives which equitably meet the priority needs of Victorians in rural areas, particularly those whose needs are greatest'.

Background on the Office of Rural Affairs

The Office of Rural Affairs is part of the Department of Agriculture and Rural Affairs. It is the part which specifically works with rural people, 'the people part'. The concept of 'rural affairs' is far reaching because it encompasses the whole way of life of country people and the breadth of government policies and involvement. It is not limited to agriculture but recognises its importance to the Victorian economy and the impact it has beyond the farm sector itself.

The Office of Rural Affairs has as its aim to improve the government's communication with country people and hence its understanding of rural

issues. The Office was designed to bridge traditional boundaries between departments and look at problem-solving in a co-ordinated way. The objective of the Office of Rural Affairs is 'to facilitate the development, co-ordination and promotion of initiatives which equitably meet the priority needs of Victorians in rural areas, particularly those whose needs are greatest'. In order to implement this objective the Office of Rural Affairs seeks to achieve effective two-way communication between rural communities and government. It aims to identify needs, especially needs of disadvantaged sectors. The Office also seeks to influence policy development and program delivery that meet the needs of rural Victoria.

It may be useful here to give a bit of background to the structure of the Office of Rural Affairs. The Head Office is in Horsham - so it takes its philosophy of being rural seriously.

Following a restructure there will be 7 staff in Melbourne who provide a link with Melbourne-based decision makers and administrative support and development of a Rural Affairs Policy. These include the Rural Women's Network. There will be also regional workers in Ballarat, Warrnambool, Horsham, Mildura, Bendigo, Wodonga, Seymour, Warragul and Bairnsdale.

In helping to provide opportunities for rural people to have a say in policies the rural affairs initiative communicates directly with The Rural Affairs Committee of Cabinet. This Cabinet Committee meets monthly and has as its focus the issues that affect rural Victorians. This Cabinet Committee meets three times each year in a country location. This month it will meet in Bairnsdale and about 90 individuals and groups have requested time to put issues that affect them to members of their Cabinet Committee. The issues, as may be expected, are very diverse. There are many with environmental concerns such as vegetation clearing, timber industry, effluent. Also health issues, road issues, education issues, mining issues, housing issues, youth issues, arts issues, aged issues, local government issues, transport issues, dental issues, water issues. The list goes on. All will involve follow-up action by the Office of Rural Affairs with the relevant government department. From some of these deputations there may emerge policy changes. There may also emerge the need for major projects.

Some of the major projects that the Office of Rural Affairs has been involved in following Cabinet Committee initiation have been the 'Small Towns Study', 'Rural Enterprise Victoria Scheme', 'Rural Women's Network', 'Services to Rural Youth' and now a 'Study of Government Service Delivery to Rural Communities', 'Rural Affairs Policy', 'Rural Data Base' and a joint 'Rural Project with the Victorian Council of Social Service'.

Delivery of Rural Education and Training Project

Another such major project of the Office of Rural Affairs which was initiated by the Rural Affairs Cabinet Committee in 1988 is what I want to present to you at this Conference. The Project was 'The Delivery of Rural Education and Training'. It was a joint project of the Office of Rural Affairs with the Ministry for Education. A Working Party was established in April 1988. It included representatives from the Office of Rural Affairs, Country Eduction Project, Division of Further Education, State Training Board, Victorian Post-Secondary Education Commission and the Portfolio Co-ordination Division. Other organisations whose representatives were invited or co-opted at appropriate times included the Country Women's Association, Community Services Victoria and the Intersectoral Education Committee.

The Terms of Reference for this Project were that successful strategies in rural Victoria were to be identified. This focus on the positive and successful methods that are currently being used to overcome barriers in the delivery of eduction and training in the rural sector makes this report different from previous documents.

Aims

The Report aimed to review:

* existing arrangements that are seen to have successfully maintained education and training options for rural groups;

* the potential for extending the use of these strategies, including cross-sectorial approaches;

- the provision of alternative approaches to program delivery that will improve rural access;

and to provide:

- advice to the Education Executive Committee and Rural Affairs Cabinet Committee on strategies that could improve the delivery of education and training for the target groups in particular, and the rural population in general.

Thus it can be seen that the aims are very much that rural education and training is a Social Justice Issue. Particular emphasis was placed on the needs of rural women and low density populations in the provision of cost effective school and post-school programs, including further education.

The process involved extensive consultation with Reference Groups established throughout the State by the Office of Rural Affairs and Country Education Project staff. A literature review further identified positive and successful strategies in rural education and training.

Policy Context

The project's aims were in line with the Social Justice Strategy. This Strategy has as its major objectives:

- reducing disadvantage caused by unequal access to economic resources and power.

- increasing access to essential good and services according to need.

- expanding opportunities for genuine participation by all Victorians in decisions affecting their lives.

- making the most of human potential within rural Victoria.

The last objective is in line with the economic strategies outlined in 'Victoria, The Next Decade' which sees a substantial upgrading of Victoria's

performance in areas of education and training as integral to the second stage of the Government's Economic Strategy.

Population Profile

The Victorian 1988 Year Book states that 29% of the 4,164,700 people who live in Victoria, live in rural Victoria. 10% of Victorians live in small rural towns or communities, or on farms. The Report on the Delivery of Rural Education and Training focuses on this 10%, the small towns and isolated and remote rural communities.

The January 1988 Australian Bureau of Statistics: The Labour Force in Victoria provides the following figures of percentage unemployed in Victoria, Melbourne and the rest of Victoria for males and females. Clearly rural Victoria has significantly more unemployed (7.2% compared with 5.9% for Melbourne) and females are more disadvantaged, as are young people - 24.5% in 15-19 age group outside of Melbourne compared with 16.9% in Melbourne, 10.5% in 20-24 year group outside of Melbourne compared with 6.7% in Melbourne.

The Australian Bureau of Statistics (Labour Force Status of Educational Attainment, February 1987) gives the figures of 24.3% of females in rural Victoria have some post-school qualifications, compared with 29.7% of females in the Melbourne Statistical Division. The figures for males are 38.1% have post-school qualifications in rural areas compared with 43.2% in the Melbourne Statistical Division.

The 1989 statistics issued in May 1990 gives an even greater disparity between rural and Melbourne education achievements. In the Melbourne statistical Division 32% of those over 15 years completed Year 12 compared with 19% outside of Melbourne. Further, overall it has been shown by the May 1987 survey on the Transition from Education to Work Australian Bureau of Statistics figures that both males and females in rural Victoria were disadvantaged when it came to attending post-secondary courses, and the females were more disadvantaged than males. This led to the task of this project to look for successful delivery models that worked for women and girls in rural isolated groups. This was the targeted group. Past submissions to the Rural Affairs Committee of Cabinet had also indicated

that existing traditional programs were failing to meet the needs of both these groups. Thus it was considered important to identify the successful programs where they did exist so that other organisations and groups could choose to adopt and adapt their delivery methods.

The report identifies some sense of the isolation and disadvantage facing people in rural areas and demonstrates the innovation, co-operation and fresh approaches being taken to education and training in rural areas. It reflects the diversity and variety and details how rural education and learning in rural areas has much to teach all Victorians.

Access

The key issue identified by the working party, all reference groups and many reports from the literature survey was **access**. And every other issue relates to it. Every means that was considered for improving delivery of rural education and training, addresses the issue of access.

Rural people believe that their access to education is restricted by:

distance and the additional costs that flow from distance;
direct and/or indirect discrimination within the tertiary sector;
inadequate information services; and
inappropriate programs.

Women were further restricted from tertiary education and training such that as well as the above restrictions, many also had to cope with:

lack of self-confidence;
lack of self-esteem;
lack of child care; and
lack of transport or inability to meet travel costs.

Distance

The effects of distance and isolation were highlighted in every report and at every meeting. Distance affected all aspects of life - it made an emotional

and psychological impact, there were costs in time and, of course, costs in travel, and there were very real limitations that were placed on people because of that distance. This finding further confirmed the finding that distance is a major barrier to rural access to education that was reported in the Federal Government's 'Schooling in Rural Australia'. This study identified communication technology, school clusters and locally provided, improved access and delivery modes for overcoming distance without throwing the responsibility back onto the students themselves.

The Country Education Project Report '3 Times Less Likely' is specifically concerned with access to post-secondary eduction and raises such issues as the availability of places in the tertiary sector and the diversity and apparent discrimination against rural people in the selection procedures which favour the traditionally well-educated groups such as white middle-class, male and urban. This report also indicates that access is also restricted by:

the organisation and delivery of courses;
the lack of student support services;
difficulty in finding accommodation;
inadequate information services;
inappropriate curriculum;
a lack of work and career role models;
inadequate staff development; and
a lack of in-service development and staff continuity in rural schools.

This report, together with the Community Services Victoria Intersectoral Education Committee, recognises and advocates a flexible, wide-based, 'client oriented' mode of education because, among other things, it results in a greater level of participation.

Limitations of cross crediting that are imposed by institutions and/or bureaucracies have severe implications for access to education and training for rural people.

The need for small class sizes is also not sufficiently acknowledged in funding formulas. Although a recommendation by both the Edgar and Clark Reports was that there be a co-ordinated relaxation of constraints which

limit progress for students, there still seems to be constraints that seem more designed to gratify the institution than to encourage the user.

Associated with this lack of institutions to be 'user friendly', is the need for co-ordination of information which is both accessible and updated easily at all levels, i.e. national, state, regional and local levels. However, the importance of informal, community-based networks should never be underestimated as a significant factor, especially for women and isolated groups. The strengths of such networks is recognised by Edgar's recommendations for 'Local Adult Education Networks'.

Now to elaborate on some of the successful strategies that were noted for the Delivery of Rural Education and Training Report (DORET).

Successful Strategies

1. **Local Ownership**

   For an activity to be really successful, it must be 'embraced' by the local community in which it is operating. Ideally it will have grown from the community's needs. This takes time and involvement with people. Felton House is a place which became a focal point for supportive community activities in the 1980s following the crisis in the Mallee. The example of a successful strategy given in DORET is the parent of an hearing impaired child deciding that, in order for her child and any other such children in the region to be integrated into the community, teachers, students, shopkeepers and other members of the local community should be encouraged to have some knowledge of sign language and offered her services to teach this at evening and after-school classes.

2. **Local Autonomy**

   Paralleling local ownership is local autonomy, where control of an initiative by the community allows for variations to occur so producing a more workable program. Conditions vary in different regions, and local variations require control of use of funding and resources and a negotiable delivery to best suit the conditions and needs of the

community. This means "untagged funding". The example of this sort of successful strategy in the DORET Report is the Rural Primary Cluster. This encompasses community involvement towards a music program and then expanded to encompass a range of arts programs. The cluster emphasised the community rather than equipment purchases.

3. **Identification of Needs**

Courses which answer a community need and are designed with a specific target group are successful. The example given in DORET of such a successful strategy is the Farm Gate Learning Project in Benalla. It was developed in direct response to rural women's stated needs. In this case the needs were to provide access to education for rural women and to raise their confidence so that they were more inclined to take up further education and seek paid employment. The program recognises the skills and previous knowledge obtained throughout life experiences as well as building on new skills and knowledge.

4. **Responsiveness**

Unless organisations and individuals respond to local needs, little progress can occur. The example of such responsiveness in DORET is the Gippsland Institute responding to the needs of the Kurnai Elders to provide a bridging program for young and mature age students to enter tertiary education. The course included programs to increase leadership and personal skills. This sensitivity to local needs contrasts with the lack of responsiveness by many institutions that the reference groups notes.

Strategies for responding to local needs identified include:

the identification of local needs;
open, flexible negotiable learning and teaching modes;
providing relevant courses;
the removal of mandatory class numbers required for some classes to be funded; and
individual attention.

5. Networks

The sorts of networks that are crucial to the successful delivery of information about educational opportunities in rural communities are those dependent on local people and often local issues. Most successful initiatives depend on the ideas and energy of individuals or small groups who have initiated and often carry a program until it has become recognised for its worth.

In my area, the Aboriginal Keeping Place in Hamilton was established to show the rich and ancient culture of the local Aborigines before European migration. As part of this educative process, an Elder of the local Kerrupjmara group, Mrs Connie Hart, was supported to keep alive the basket-making tradition that her mother used for income but actively discouraged Connie from learning since it was not a white craft. Nevertheless, with funding from the Voluntary Adult Learning Grants and the Crafts Board of the Australia Council, Connie has taught a succession of Koori and non-Koori people this craft. The benefits have been many, and on many levels. They have enabled a craft that was nearly lost, to be resuscitated, it has enabled Koories to meet for creative purposes in a special non-threatening environment, it has enabled the Koories to have a sense of worth that they had never experienced previously, it enabled the Koories to realise that they could achieve and so gain a sense of self-confidence not previously attainable, it has enabled non-Koories to sit and talk to Koories in a special non-threatening environment (something few, if any, previously had the opportunity to do) and so mutually learn and respect each others feelings, way of life, culture, thoughts and wishes for the future. However, this was only possible because there were a small group of local committed individuals who were prepared to make this happen, despite often formidable odds.

6. Linkages

An aim of numerous courses is to encourage participants to return to and continue study. For optimal effect, courses should facilitate entry from one sector or level of education to another via a co-ordinated curriculum, flexible entry requirements and provision of bridging courses. Thus recognition between sectors of qualification achieved in

previous courses should be given, i.e. credit should be available when moving from informal courses to formal courses. The term 'articulation' commonly used by policy makers should be replaced by 'pathways' through the different forms of educational structures.

With choices limited by distance, the complications of cross-crediting and artificial barriers to institutions diminish further rural people's access to education and training.

DORET gives the example of the Intersectoral Community Service Education Committee negotiation of the Social Work Degree Course to be provided in several country locations from 1989 as a strategy where this recognition between sectors was achieved. (This programme is described by Condliffe in an earlier section of this proceedings.)

7. **Cross Sectoral Co-operation**

Co-operation between agencies in the rural sector requires firstly that sectors within the Ministry of Education and other agencies and government departments are involved and that they co-operate across the perceived divisions. The results of this co-operation would make the best use of existing resources. Another major result of co-operation is improved pathways within the available courses, so that progress through the educational maze in search of academic qualifications is made easier. Where this sectoral co-operation is occurring there can also be found numerous examples of the characteristics synonymous with success.

The example given in the DORET Report is of Bendigo College of Advanced Education linking with Mildura, Shepparton and Wangaratta TAFE.

8. **Institutional Co-operation**

The difference between community-based learning and institutional learning was often raised during the consultancy, and often the remarks about institutional co-operation were disparaging.

9. **Innovative Delivery**

The most effective delivery was that which was negotiated with the participants and took into account the needs of both participants and the community.

The examples in DORET of such a strategy are Ethnic Education Services courses offered at East Gippsland Centre in Sale where a wholistic approach was taken to answer the demands for services and include interpreter services, English classes, information on the community and its services, schools, health and Distance Learning programs. The courses valued and utilised the adult's previous life experience and put the learning into a relevant and applicable context.

10. **Flexibility**

The timing of courses in terms of hours per week, days and times of the year needs to be considered with the seasonal and economic constraints of the region in mind. Requirements of attendance to residential courses that involve travel, accommodation, family responsibilities and other considerations need to be flexible and learner 'owned'. Rural people respond to informal, skills-based personal approaches to learning and women value these approaches even more.

DORET gives the example of the Communications Skills Project at Apollo Bay as a project which owed much of its success to the flexible delivery methods employed.

11. **Overcoming Rural Isolation**

Various initiatives have been introduced to maximise physical awareness and minimise the time and cost involved in covering distance. When the cost is shouldered by the provider rather than the participant, access is improved. Thus by delivering courses out to the people, in local situations and familiar surroundings, many barriers that are both physical and psychological are overcome. The balance of delivery between technology and face-to-face methods makes the best

use of physical and human resources in the most cost effective manner.

Technology enhanced learning and teaching initiatives involving telephones, computer modems and other links of radio and ducts can reduce costs of time and travel and accommodation whilst opening up learning and teaching opportunities not previously possible in isolated communities.

The example of the La Trobe Valley School Support Centre employing the delivery strategy of tele-conferencing very successfully in response to requests from parents who wanted specialised educational information about children with Down Syndrome is an example of such a positive technological link to overcome isolation.

12. **Low Costs**

The costs of education and training in a rural setting are higher than in a metropolitan seting. Initiatives that highlight local delivery, shared resources, local and donated expertise demonstrate awareness of the need for cost reductions. Low cost programs for rural participants can be the start of educational pathways for many people.

DORET gives the example of the North Central Technical Centre in Charlton where eight schools (both government and non-government) and their students were bussed from 'home schools' one or two days per week for courses designed to enrich and extend home curricula.

13. **Innovative and Committed People**

The energy and commitment of local groups and individuals must not be underestimated in the development and delivery of innovative and successful programs.

The examples of the Hub in Horsham and MADEC (Mildura and District Education Centre) in Mildura and the music laboratory split between Casterton and Balmoral and serviced from Hamilton all have involved innovation and commitment from individuals that has led to enhancing education and training practices in rural Victoria.

14. Child Care

The issue of child care is ubiquitous. Through all the literature and at all the meetings, the issue of the adequate provision of child care was raised. It is a fundamental condition of all good delivery of education. Recognition must be made of the need for systems of child care which are totally community based and can be delivered where considered most suitable. Child care is a condition of access for a major section of the population. In some cases it has been the catalyst for involving parents in some form of educational experience.

DORET notes the Mobile Child Care Project in Albury/Wodonga developed to meet the needs of the community.

Thus Social Justice emerges as a consistent theme in the Report on the Delivery of Rural Education and Training in Victoria. There were found to be:

limited access to educational opportunities for people living in rural Victoria;

the importance of local management and decision making in the development of appropriate educational programmes;

further development of educational pathways linking educational provision from schools, community providers, TAFE Colleges and higher educational institutions;

the need for more flexible and innovative delivery of educational programmes;

the limited availability of child care; and

the costs are often borne by volunteers in delivering further education in rural areas.

A Wool and Rural Industries Skills Training Centre in Hamilton

The concept of a 'Wool and Rural Industries Skills Training Centre' proposed for Hamilton which takes hold of this cross sectoral co-operation. It was first mooted by a community group, Hamilton Region 2000. They got great support from local Councils, Shires, Victorian Farmers Federation and citizens. They then joined with the South West College of TAFE to commission an Educational Specification. From this, the Mayor called a public meeting on behalf of Hamilton Region 2000 and an Interim Management Committee was established with a Victorian Farmers Federation person as Chair. On this Interim Management Committee were a majority of industry representatives (Victorian Farmers Federation, Australian Wool Corporation, Australian Workers Union), relevant educational [providers (South West College of TAFE, Victorian Colleges of Agriculture and Horticulture, Higher Institutions and Department of Agriculture and Rural Affairs) and the local community through Hamilton Region 2000. The brief of this committee was to undertake a business plan and program profile using grants obtained from the Department of Employment, Education and Training and Victorian Education Foundation negotiated by Hamilton Region 2000. This document was released by the Minister for Agriculture and Rural Affairs last month for public comment before being presented to the State Training Board last week.

The central ideology of this Wool and Rural Industries Skills Training Centre in Hamilton is to provide access and equity for the wood and rural industries. The concept thus involves much cross sectoral co-operation and institutional co-operation. It aims to provide flexible delivery of service, at varying costs. It has local ownership and innovative and committed people at its heart.

Conclusion

To finish, education in rural Victoria is certainly a Social Justice issue. The successful strategies outlined in this talk that were noted in the Report on the Delivery of Rural Education and Training are no new news to those who have worked in rural communities. They are, however, somewhat of a surprise to the larger educational providers that the local community is resourceful, creative and gains good results. Further, smaller communities want to deal locally, not centrally. They are quick to think of complementary

resourcing and expertise sharing and are forever mindful of costs. Further, they often gain their good results despite the difficulties in the bureaucratic processes that they seem to be forever encountereing.

Recommendations in the DORET Report were accepted by the Rural Affairs Cabinet Committee in February this year. The Cabinet Committee endorsed the establishment of a Rural Education Reference Group to monitor the implementations of the DORET recommendations. This is state-wide and will hopefully give a higher profile to rural education in the Victorian Ministry. A pilot Rural Education Working Party is being established in the Goulburn/North East Education Region to pursue the recommendations. Access and equity ARE central to education and training in rural Victoria and DORET has been a means of increasing this access and equity.

State provided education **can** act as an agent for social justice. It has always been the poor, the Aborigines, the transient workers, the immigrants, who are least able to benefit from the provision of education in Australia. The concept that schooling has the potential to be most effective when conscious of, and aligned with, the needs of lives, both individual and communal, has operated very effectively for the privileged classes. It has now begun to work for the less affluent, the minority groups, the rural people. The DORET Report has shown some of the positivies for rural Victoria and it will be wonderful to see them grow.

AUSTUDY RURAL INEQUITIES

Jennifer Sheed and Doug Lloyd
Faculty of Education
LaTrobe U.C.N.V

Introduction

The purpose of the project was to identify the effect of AUSTUDY on rural people and to develop strategies to bring about changes to the scheme where it was found that inequities existed. A report was produced as an outcome of the project.

Five areas are addressed in the report:

(i) Access to reliable and accurate information about AUSTUDY in rural areas;

(ii) The adequacy of the living away from home allowance;

(iii) The impact of AUSTUDY on retention rates in secondary schools;

(iv) The assets test and the income test; and

(v) The transition from dependence to independence for young people and assumptions made by AUSTUDY about that transition.

The report was conducted in 1990. The paper which follows is essentially a summary of the report.

The Context of the Project

In recent years a great deal of attention has been given to retention rates and the capacity of rural schools to provide for the diverse needs of rural students. Victorian schools have been actively encouraging students to continue with their studies through offering a wide curriculum choice. They

are making considerable efforts to provide information and to change general community attitudes to formal education.

There is considerable evidence which indicates that rural students have low participation rates in post-school education relative to other students.

> ... country students perceive both fewer benefits and greater costs in proceeding to tertiary study and that the joint effect of these two perceptions constitutes a powerful deterrent to their continuing.
>
> (Three Times Less Likely, May 1988)

The 'Three Times Less Likely' report of May 1988 identified a range of strategies for enhancing rural access to tertiary courses. Central to these strategies was the need to reduce the costs involved. A recommendation of the report suggested that representation be made to the Commonwealth Government about how anomalies in AUSTUDY place country students at a disadvantage and contribute to inequities in access to tertiary education.

The 'People, Potential and Possibilities' conference of 1988, organised by the Office of Rural Affairs and the Victorian Country Education Project, also produced recommendations which focussed on the inequities of AUSTUDY and the need to explore the impact of the AUSTUDY program on rural communities. Subsequent enquiries highlighted that many people living in rural areas had their own story to tell of how AUSTUDY had treated them unkindly.

In 1989, two pilot programs were initiated by the Country Education Project in East Gippsland and Kara Kara, to focus in improving access to and participation in post-school and further education. In both programs the costs of participation in post-school education were confirmed as a major barrier and AUSTUDY was seen as having inherent problems that restricted access. Therefore AUSTUDY does not fulfill its potential in changing the nature of participation by rural people.

This report has two objectives. Firstly, it aims to identify and report on the inequities of AUSTUDY for rural people. It does not cover each of these issues in a full and comprehensive way but rather it seeks to identify issues and report on their impact in practice.

Secondly, the report aims to provide rural people with the opportunity to 'tell their own story'. AUSTUDY has been in existence since the end of 1986 and in this time it has left its mark on many individuals and families.

Retention rates in Victorian country schools are improving and this improvement is most encouraging. The most obvious question is retention for what? And what changes in policy are required to ensure that rural students and their families get a (*"A Fair Go"?*)

Method and Management of the Project

Integral to the AUSTUDY Rural Inequities Project was the appointment of, and collaboration with, a Reference Group and Steering Group, who represented a diversity of sources of information relating to AUSTUDY and rural communities. The Reference Group played a key role in formulating strategies for action and in the review of the draft report.

The consultants, with the assistance of the Steering Group:

(i) undertook a review of the literature relating to inequities in rural education, focusing on the cost of education and ways of meeting those costs;

(ii) interviewed people with specific knowledge of AUSTUDY and its implementation in rural communities;

(iii) identified issues for investigation;

(iv) analyzed data and collected and developed explanations for what was found;

(v) developed recommendations as a result of the analysis; and

(vi) made decisions about actions to be taken as a result of the findings.

The sequential checklist (i) - (vi) suggests that each of the phases described above resulted in a "straight line" approach to the project. The research is better represented as a series of cycles.

Ongoing investigation allowed for the refining of questions and issues and the identification of new ones as the project progressed. During the project, cross validation of data collected was carried out. As an issue emerged as significant, the sufficiency of the data was assessed according to the convergence of data from multiple sources and augmented when necessary.

The analysis in the report is qualitative and descriptive. It serves to draw attention to the multiplicity of issues impacting on rural people when they seek to participate in post compulsory schooling and post secondary education.

During the course of the study, one hundred and twenty (120) people were interviewed, either in person or by telephone. Thirty-two (32) people were interviewed more than once to seek clarification or further information. All were people with specific knowledge of AUSTUDY and/or its implementation in rural communities. Those interviewed were students, parents, teachers, student counsellors from all sectors, DEET personnel, CES personnel, AUSTUDY office personnel and community workers.

In addition, sixty-two (62) written submissions were received, mainly from students and/or their families expressing the concerns they had with AUSTUDY. Most of these submissions focused on the financial difficulties students in rural areas face when pursuing post secondary education.

Issues Addressed in the Report

Five main issues are addressed in the report. They are:

(i) Access to reliable and accurate information about AUSTUDY;

(ii) The adequacy of the living away from home allowance;

(iii) Student assistance (AUSTUDY) and secondary school retention rates;

(iv) The assets test and the income test; and

(v) The transition from dependence to independence for young people and assumptions made by AUSTUDY about that transition.

Access to Accurate and Reliable Information about AUSTUDY

A major source of inequity, frustration and dissatisfaction with AUSTUDY provision in rural areas is the difficulty of readily accessing accurate and reliable information about AUSTUDY. The AUSTUDY scheme is very complex and this creates difficulties in disseminating information about it.

The visual complexity of the AUSTUDY application forms and the complexity of the AUSTUDY scheme gives rise to many enquiries whereby applicants seek clarification and advice. This, in turn, adds to the workload of existing enquiry units in AUSTUDY offices, CES personnel, student counsellors in post-secondary institutions and teachers in schools, particularly those with responsibility for careers and welfare.

The complexity of the scheme necessitates a thorough and lengthy training process to enable enquiry staff in AUSTUDY offices to answer enquiries in an efficient and effective way. The same is true for CES personnel. There are indications that the training process to date has not been adequate overall. The telephone service provided for rural areas is inadequate. People living at considerable distances from CES offices do not have sufficient access to AUSTUDY information.

There is evidence that the current model of information dissemination in rural areas is not appropriate. More recognition needs to be given to existing effective networks and use made of them subject to negotiation and provision of funding and other necessary resources. Existing networks include student counsellors, schools, parent organizations, adult education networks, rural women's network, Country Youth Affairs Network, student

organizations, Country Education Project, the Office of Rural Affairs and the Victorian Country Youth Affairs Network.

The Adequacy of the Living Away From Home Allowance

The maximum living away from home allowances and partial living away from home allowances have been found to be inadequate.

There is a significant difference between the amount payable by AUSTUDY and the cost of living away from home to study. Students receiving the maximum away from home allowance in 1990 are entitled to $5,483 p.a. Minimum cost of living away from home is estimated to be approximately $7,500 p.a. The average cost is estimated to be $12,000 p.a. It is argued that this difference places undue hardship on many rural families when they decide to support a member of the family in post secondary education. The difference can mean that for some rural young people post secondary education is not an option and is a contributing factor to lower participation rates of rural young people when compared with their metropolitan counterparts.

The AUSTUDY living away from home allowance is considerably below the Henderson poverty lines calculated for September 1989. The maximum AUSTUDY living away from home allowance for single students in 1990 is $105.15 per week. The Henderson poverty line for a single unemployed person is $142.20; for a single employed person it is $175.40. Due to the high costs associated with course levies, equipment costs, practical experience etc., the AUSTUDY allowance should be compared with the Henderson poverty line for the single employed person.

Shortage of suitable accommodation is a continuing problem for students living away from home. The shortage leads to extra costs being incurred.

Student Assistance (AUSTUDY) and Secondary School Retention Rates

Rural families can incur two types of cost when their children complete secondary schooling. They are income foregone and actual costs involved in having a child attend school.

Young people living in Victorian metropolitan areas are more likely to complete Year 12 than those living in rural Victoria. However, there are many local differences in rural areas that merit further study. There is evidence that individual schools are increasing costs and that families are incurring a significant proportion of these costs. There is cause for concern since a child's involvement in a wide variety of school activities may be dependent on their parents' capacity to pay. A parent's inability to pay then marginalises their child in the education process.

The review and application of socio-economic indicators to resource allocation in Victorian government schools has resulted in a marked increase in the number of rural schools included in the Disadvantaged Schools Program, thus providing evidence of the increasing difficulty families in rural areas face in meeting educational costs.

Geographical isolation limits access to education and imposes additional costs on families. It is a factor both Federal and State governments should continue to keep sight of in their deliberations regarding financial assistance for isolated children.

Financial assistance in the form of AUSTUDY entitlements and State Education allowances is a very important factor in increasing participation rates in post compulsory schooling. The availability of the assistance should be widely and effectively publicised.

The Assets Test and the Income Test

The claim that the introduction of the assets test can be justified for reasons of equity requires more careful investigation from the point of view of people living in rural areas, particularly farmers.

There is cause for concern when farmers and owners of small businesses in rural areas are entitled to AUSTUDY payments for their children on the basis of the income test but do not receive them because their assets are reported to be over the limit.

Current AUSTUDY regulations fail to recognise that not all assets (particularly farms) are equally capable of being realised to provide a source of income. Also, it is counterproductive for farmers to be allowing their farm operating stock to deteriorate or to sell off part of their land in order to meet basic education costs for their children.

The rural economy is undergoing structural change. The problems currently being faced by many farmers are not simply cyclical. They are long-term. Farm incomes face a long-term downward trend, a problem which needs to be recognised when examining the issue of income support for rural students.

There is confusion and lack of clarity amongst accountants and farmers as to how assets should be valued for AUSTUDY purposes.

The administration of the assets test requires more effective and detailed study and investigation.

The Transition from Dependence to Independence

The transition from dependence to independence is often very rapid for students from rural areas. Many rural students are forced to leave home to continue their education, particularly post-secondary education. Living away from home means living independently of parents and assuming new responsibilities related to day to day living. Living away from home is very costly for families and/or students from rural areas.

The AUSTUDY scheme has carried through the TEAS principle that families are responsible for their children's education.

The AUSTUDY scheme is based on the assumption that young people aged 16 - 25 years receive substantial support from their parents. The research evidence now demonstrates that this is clearly not true for a significant

number of young people. Some young people simply have no family at all, whilst in other cases the family cannot or will not provide adequate financial support. The reasons may be due to the family's own impoverished circumstances or because of a breakdown in family relationships.

The transition from dependence to independence can be difficult. Students from rural areas living away from home spoke of trying, as best they could, to budget carefully and manage on the money

They had been allocated by parents. If they had no other means of support there were times they had to ask parents for additional money for unexpected expenses. Some felt this very deeply. They believe they have a right to be independent. They were also aware of the considerable effect their studying away from home was having on family finances and the extraordinary lengths their parents were prepared to go to ensure that they had a post secondary education.

Conclusion

The report is complete and has been published but is not released. The report contains twenty-five recommendations that will be made public on release of the report. Negotiations are currently (July 1990) taking place between DEET, the Victorian Ministry of Education and the commissioning agencies for the release of the report.

Availability of Full Report

Readers of this paper who would like a list of the supporting references or a copy of the full report may contact Jennifer Sheed, Department of Education Studies, LaTrobe U.C.N.V. P.O. Box 199, Bendigo 3550, or telephone (054) 44 7309.

FARM MANAGEMENT EDUCATION FOR THE FUTURE

Keith Woodford & Ray Collins
Queensland Agricultural College
Lawes, Qld.

Australian Agriculture

Australian agriculture is made up of about 170, 000 farms. Nearly 400,000 people work on these farms either as self-employed wage earners or salary earners. Approximately 100,000 of these workers are women.

The agricultural workforce comprises less than 7 percent of the national workforce although another 16 percent are involved in the supply of inputs and the processing and marketing of output. However these statistics by themselves fail to highlight the importance of agriculture to the Australian economy in general and the rural community in particular. Agriculture provides close to 40 percent of export income, which underpins economic activity throughout Australia. Without agriculture there would be no need for rural towns. Indeed without a prosperous agriculture, it is difficult to envisage a prosperous rural community or in the long-term even a prosperous Australia.

Although most Australian farms are family owned, the days when agriculture would be considered primarily a way of life have gone. A typical Australian farm has a capital investment of more than one million dollars. Agriculture is a human activity that requires a diverse set of practical skills, technological knowledge, business knowledge and managerial ability.

The Education Levels of Australian Farmers

The Rural Training Council of Australia estimated in their April 1988 policy statement that only 25 percent of the current farm workforce has attained school leaving, trade or tertiary qualifications. A recent survey of Australian post-secondary agricultural courses identified 57 courses of one year's duration or longer. However only seven of these have their main objective as the training of farm managers (Napier and Chudleigh, 1987). Chudleigh

(1989) has calculated that only 12 percent of new entrants to farming have any post secondary agricultural education, and only 5 percent undertake courses that include specific education for farm management.

Australian participation rates in post-secondary agricultural education appear to be lower than in most other western countries, although direct comparisons can be difficult owing to the way in which data is collected. Pryde (1982) found that 32% of New Zealands farmers had some form of post-secondary education, nearly all being in agriculture. For farmers aged less than 35 the figure was 45%. Hastings (1988) stated that in Britain less than 50% of new farm owners attended college or university, and less than 20% of all farm owners attended college or university. In some countries, such as Denmark, farms can only be purchased by graduates of agricultural colleges.

Both Craig and Killen (1984) and Chamala and Crouch (1977) found that the wives of Australian farmers had more post-secondary education than their husbands. However most of these wives had qualifications in non-agricultural disciplines.

Post Secondary Agricultural Education

Post-secondary agricultural education in Australia can be classified broadly into five categories:

1. postgraduate courses at Universities;

2. three and four year degrees in Universities and Colleges of Advanced Education;

3. two year associate diplomas at Colleges of Advanced Education and TAFE Colleges;

4. one year certificate courses at Rural Training Institutions and TAFE Colleges; and

5. apprenticeship schemes.

The University courses tend to be oriented to science or agricultural economics and most of the Colleges of Advanced Education concentrate on applied technology. However a number of colleges emphasise farm management. TAFE Colleges and Rural Training Institutes emphasise practical skills and production husbandries. With few exceptions, the curricula at all levels reflect a philosophy that agriculture is a production oriented applied science. Less evident is the philosophy that agriculture is a business that attempts to satisfy consumer needs in a manner that is both profitable and socially acceptable.

The most recent comprehensive study of agricultural education in Australia is that by Lees, *et al.* (1982). Their study included surveys of graduates, industry, policy makers and teaching staff. The authors stated (p. 118) that 'in the light of their subsequent work experience all graduates felt that communication and management skills should receive more emphasis in the programmes'. They also reported (p. 118) that 'the major deficiencies of existing programmes identified by employers were all areas of management (personnel, business and financial), economics and the area of extension/communication'. They commented (p. 119) that 'given the apparently high level of consensus between survey groups on the perceived deficiencies of existing programmes, it is perhaps surprising that more action has not been taken to rectify these deficiencies'. It is questionable as to whether there has been major change since this was written.

Agricultural education in Australia is likely to undergo considerable change within the next five years. The Federal Government's 1987 green paper and subsequent 1988 white paper on tertiary education have started a process of major adjustment in the tertiary education sector, and agricultural education is already being affected.

With the binary system comprising Colleges of Advanced Education and Universities becoming a unified system, Queensland Agricultural College, Hawkesbury Agricultural College, Orange Agricultural College and Roseworthy Agricultural College, Muresk College and the Victorian College of Agriculture and Horticulture have been amalgamated with, consolidated with, taken over by, or subsumed within existing or newly formed Universities. These changes can create new opportunities, but they also provide threats to the orientation of existing courses. In general, the universities seem likely to dominate the philosophical debates and some of the more applied and management oriented courses may not survive, at

least in their present form. It is notable that farm management, as an applied discipline, has not prospered in previous times within Australian Universities.

Federal policy appears currently to be providing encouragement for TAFE Colleges and possibly Rural Training Institutes to develop their own associate diploma courses in agriculture. Given this situation, we can only wonder whether the University sector will retain a long-term commitment to associate diploma courses. Although no doubt such moves would at this stage be denied, this could be one of the areas of so called 'rationalisation' that some institutions may choose to make.

It also appears likely that the Rural Training Council of Australia (RTCA) and the Rural Industry Training Committees (RITC) will play an increasing role in the future. The 1988 RTCA Policy Statement claims that it is the 'responsibility of industry to define the WHAT of training and for the education system to determine the HOW it should be done'. If the RTCA were to limit these claims to the identification of required practical skills then this may be acceptable. However if the claim extends to the total educational curricula of agricultural courses, then this must be unacceptable to professional educators. It is notable in this regard that the policy Statement of the RTCA specifically includes 'theoretical knowledge' and the need to 'develop as an individual' as being within the 'Objectives of Rural Training'.

Farmer Attitudes to Agricultural Education

The low Australian participation rates in post secondary agricultural education are consistent with the traditionally held view of many farmers that practical agriculture is best learnt on the job. For example, Hawkins ,*et al.* (1974) surveyed 202 farmers in the southern states and asked them as to 'how farming can best be learnt'. This question was first asked in a personal interview. Subsequently, the aggregate responses were posted to the same farmers and they were asked to reflect again as to the best methods. The replies to this question, asked under different sets of conditions, are shown in Table 1.

TABLE 1
Educational Pathways for Farming

Methods	Initial Ranking in Personal Interview	Subsequent Ranking In Mail Questionnaire
Practical Experience	1	1
Formal Education:		
Full time at Agricultural College	2	6
Short Courses	6	5
Reading	4 (equal)	4
From Other Farmers	3	2
From Professionals	4 (equal)	3

The report stated:

> 'Practical experience', which has been taken to include working on the family farm, working with one or a number of good farmers in the appropriate district, working around in many districts, learning by one's mistakes and trial and error, was seen to be the most important way of learning about farming by farmers ... Many farmers in fact saw this as being the only way to learn about farming. Although full-time formal courses at Agricultural Colleges were given high ratings in the personal interviews, they were given the lowest ranking in the mail questionnaire. During the personal interviews, some farmers, knowing the interviewers were from a University, may have sought consciously or unconsciously to please by answering the question in terms of what they imagined the interviewer would want to hear. The fact that at least 20 farmers in those

> interviews separately and spontaneously said that a young man should not go to an Agricultural College to learn farming supports the lower ranking farmers subsequently gave to Agricultural Colleges. (Hawkins, et al., 1974:23)

More recent data come from Lees, *et al.* (1982). They surveyed 310 farmers in New South Wales and Victoria, all of whom employed either non family labour or indentured apprentices. They found that although nearly two-thirds 'felt that some training would be very useful', only moderate emphasis was placed on agricultural qualifications when selecting employees. General work experience, work experience on similar farms, and a number of personal qualities were more important. And general education qualifications were considered of similar importance to agricultural education.

These results from Hawkins, *et al.* (1974) and Lees, *et al.* (1982), although now somewhat historical, suggested that it was the attitudes of farmers towards agricultural education and their perceptions as to the value of existing courses, rather than issues of accessibility or appropriate delivery mechanisms, that were the key factor limiting participation rates.

If participation rates are to be increased then it is important that educators understand what farmers think about education. This is not to suggest that farmers should control curricula (as the RTCA seems to suggest) but it is to accept that their views need to be considered. Lees, *et al.* (1982) interviewed 73 farmers from four industries and four states using the Canadian developed DACUM framework (Adams, 1975 cited in Lees, *et al.* 1982). This required farmers to meet in industry groups and to specify in detail the knowledge, skills and attitudes required to work in their industry. They were subsequently asked to rank these. Five of the six groups ranked management skills, such as cash management, financial planning, management planning and resource management as highest priority.

The Changing Face of Agriculture

The last decade has probably seen more and faster changes to agriculture than any decade before it. Society is changing, technology is changing, and

the world trade environment is changing. Farmers are having to change just to keep pace, and new management systems are emerging. These systems juggle the integration of advanced technology and a greater awareness of consumer demands with the need for a more sustainable approach to natural resource use. This juggling act is difficult now, and is likely to become more difficult in the future. For many farmers, doing nothing will result in failure.

Ten years ago, most Australians would have scarcely been aware of vegetables such as broccoli or zucchini, fruits such as avocados or kiwifruit, or even macadamia nuts. At that time they also would not have foreseen the current demand for products such as low fat milk, natural fruit juices, high fibre oat bran, or leaner cuts of meat. People were not generally aware of the possibility of chemical residues in the food they consumed. Today's consumer is much more concerned about health, is prepared to try something new, and through a willingness to pay for quality, demands to be satisfied. The impacts on agriculture have been obvious.

Livestock producers have been made painfully aware of the economic penalties for meat which is overfat or contains chemical residues. National advertising highlights the health-giving qualities of fruit and vegetables, low cholesterol eggs, or skinless chicken. The sugar industry mounts a campaign against artificial sweeteners, just as the butter industry campaigns against margarines. New fruits and vegetables continue to appear on supermarket shelves. Farmers and their organisations actively seek opportunities to provide the consumer with that elusive product which is just right.

In this search, the overseas consumer has not been overlooked. Export markets are under close scrutiny. Recent success stories include the live sheep trade to the Middle East, vegetables to south-east Asia, and citrus to Japan. Unexploited potential exists for exports of venison and deer velvet, macadamia nuts, cashmere, specialist lot-fed beef, non-astringent persimmons, and the products of aquaculture such as freshwater crayfish.

At the same time as farmers are reacting to the wants of consumers, they are being confronted with rapidly advancing technology. Sheep and cattle producers can now induce oestrus in their female animals on a specified day, inseminate them with semen from a sire in another country, and pregnancy test the females by ultrasound scanning. Then, at the

predetermined time, they can have a crop of genetically superior offspring on the ground in a concentrated period planned to coincide with feed supply, environmental conditions, or markets. The vegetable grower now has the technology to apply a few millilitres of insecticide over a hectare of crop, and the cotton farmer can scan his crop using infra red rays to determine when to irrigate.

While the farmer juggles with more sophisticated consumers, export markets, and high technology, society is calling on him to more responsibly manage his natural resources. As Roberts (1989) points out, 'For the first time in Australia's history, the community at large is starting to make it known to farmers and graziers, that their impact on the land is the concern of all Australians'. Such calls for a reappraisal of the sustainability of present farming systems bring two issues into sharp focus.

The first is the reversal of natural resource degradation which has taken place since Australians started farming. The second is the effect on society of the use of agricultural chemicals. Now, conservation farming systems and the organic/biodynamic/sustainable agriculture movements are here to stay. Farmers have had another ball added to their juggling act.

Some might argue that Australian agriculture has always been changing. Farmers have always had to find ways of adapting to markets, climate, and technology. Industries have undergone dramatic rationalisations - Queensland's dairy farming population which once exceeded 30,000 now numbers less than 2000. Some beef producers have switched completely to wool production in the past just as wool growers have moved into the beef industry at other times. Agriculture has never been a collection of static industries.

Why will the 1990's and beyond be different? There is a possibility that change may not in fact occur any faster than in the past, but the pressures do seem to be building up. Changing climate, new oil crises, changes in the balance of international economic power (and hence consumer power) are all possibilities. Biotechnology is making enormous progress. Societal demands in relation to land degradation and clean food seem to be getting stronger. Acts of international terrorism, such as the recent injection of Chilean grapes with cyanide, have the potential to shut down whole sectors of an industry overnight. Such forces arise completely external to the farm

enterprise, and will impact heavily though unpredictably, and will not go away if ignored.

Coupled with this different kind of uncertainty, technological advances will continue to be made. Robotic milking and shearing, genetic engineering, embryo splitting, and much more sophisticated computerisation may all be facts of life for Australia's future farmers. Future farming systems will also be shaped by the need to more responsibly manage 'spaceship earth'.

Emergency Philosophies of Farm Management

The term 'farm management' can mean different things to different people. To practising farmers it can mean the things they do to run their farms. To accountants it may mean the financial aspects of farming. To many economists farm management is a sub-discipline of agricultural economics.

Within the agriculture departments and faculties of Australian Universities, the prevailing philosophy for, at least, the last 30 years has been that farm management is a sub-discipline within agricultural economics that is concerned with relating economic principles to production decisions. Much of the research effort has been directed towards mathematical programming models and Bernoullian decision models.

These same philosophies of farm management have influenced but not dominated the thinking in The farmer Colleges of Advanced Education and Rural Training Institutes, where management has been more broadly defined in terms of production decisions that have physical and financial outcomes, and the recording and processing of information. However, staff in those colleges and institutes, although often working closer to the reality of practical farming than their more academic colleagues in the Universities, have, at least until recently, failed to underpin their work with philosophical paradigms.

Within the last decade a number of farm management texts, such as Kay (1981), Harsh, *et al.* (1981), and Boehlje and Eidman (1984), have emerged from American universities. Most of the American texts perceive farm management as a decision making process that draws upon disciplines such as economics, accounting, sociology and the agricultural technologies so as to plan, organise, direct and control the farm business. These concepts

have been drawn from general management theory as taught in many American business schools. They are described in many management texts such as Longenecker and Pringle (1981) and Hodgetts (1986).

This view of management has gained ready acceptance within many Australian agricultural teaching institutions. The initial application of these concepts was primarily to the production process.

The changing environment in which agriculture is taking place is now forcing further reassessment of management paradigms. The span of management has been broadened to explicitly include not only production, but also personnel, markets and finance. It is not that production has become less important, but rather that markets, personnel and finance have increased in importance. This model of management is demonstrated in Figure 1.

FIGURE 1
A MODEL OF MANAGEMENT

FARM MANAGEMENT

is the

PLANNING
IMPLEMENTING

and

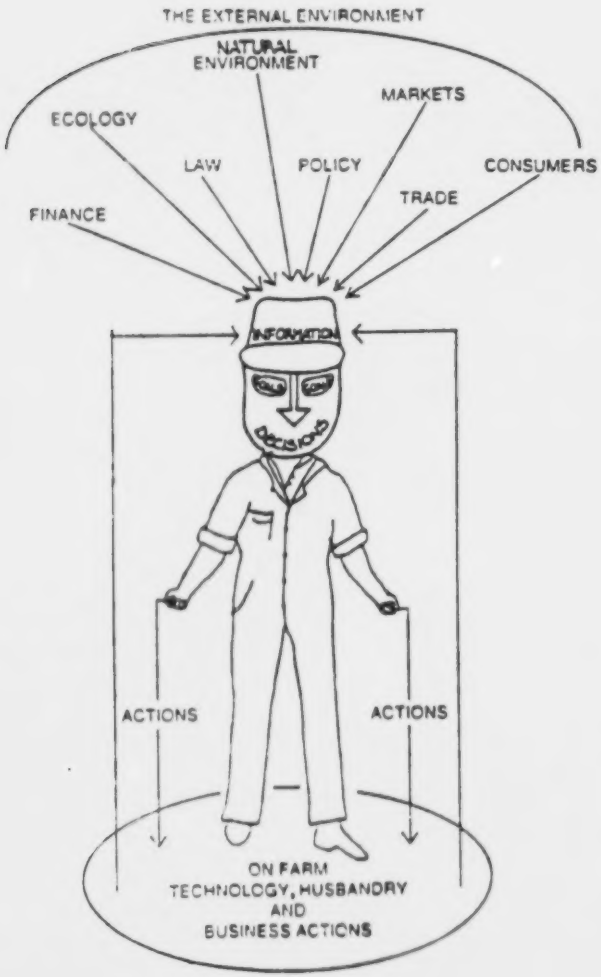
CONTROLLING

of

PRODUCTION, MARKETING, FINANCE, and PERSONNEL
SO AS TO MEET OBJECTIVES

A further advance has been the recognition that general management develops in strategic management and consumer behaviour are of major importance. A fundamental premise of strategic management is that many of the crucial business risks and opportunities arise from forces external to the business. The function of strategic management then becomes 'one of balancing internal and external forces and marshalling the organisation's resources to meet the many external opportunities'. (Rowe, *et al.* 1986). Accepting this pressure means accepting that farming businesses need to become more outward looking, not because they can influence the outside world in any significant way, but because they must react to outside threats and opportunities. This situation is depicted in Figure 2.

FIGURE 2
THE FARM MANAGER



The Educational Response

A number of factors will shape the future of Australian farm management courses at post-secondary level. They have been discussed in this paper and they include the level of farmer education, farmers' perceptions of the role of education, changes occurring within the education system itself, and the changes occurring to agriculture and the environment in which it operates. Collectively, these factors represent a considerable challenge to educators designing courses whose graduates will work in the uncertain future of Australian agriculture. There are a number of key issues which need to be addressed in designing such courses.

What is the appropriate balance between the needs of employers and the needs of students?

Are we educating for the next decade or for a lifetime?

What is the appropriate balance between practical skills, technology, scientific principles, and management?

What are the respective roles of institutions and employers as trainers of the next generation?

Employers should not expect farm management courses to unduly focus on their short term requirement for practically skilled graduates, sometimes described as 'immediately employable'. A goal of education is also to equip graduates for their future; a lifetime of continuing change. They should be able to contribute to the long term needs of their employers as well as to provide some practical skills in the short term.

In agribusiness, employers have shown to place the highest value on graduates who can think clearly and communicate well, rather than demonstrate highly developed skills (Fairnie, *et al.* 1988). Some of the views being expressed by Rural Industry Training Committees may suggest that farmers think otherwise. However, the survey data which is available (Lees, et al. 1982) indicate that farmers also value problem-solving and communications skills ahead of practical skills.

Farm management courses must strike a balance between theoretical and practical training. They must also be future-oriented, focused on the

processes of dealing with uncertainty and change, and must place management and technology in balance, within the context of farming as a business.

A conceptual model which we consider appropriate to the development of farm management courses is presented in Figure 3. The model is based on the philosophy that an understanding of the management environment, coupled with an understanding of management processes, provides the basis for resolution of management issues.

FIGURE 3
A MODEL FOR FARM MANAGEMENT COURSES

This model can apply equally well to associate diploma or degree level courses, although the relative importance of environment, process, and applications modules may vary between course levels. It is seen as important that subjects from each module be presented in the first semester of the course. In this way, students are exposed from the start to the overall model of management. This includes an introduction to issues such as the impact of new technology, dealing with uncertainty, and the management of change. Also, an early introduction to applications provides motivation and a focus for their other studies.

Management environment subjects cover both the on-farm operating environment, and the external environment. Important subjects include:

- soils and plant protection;
- animal production;
- mechanisation and engineering;
- natural resources and ecological principles;
- legal and taxation systems;
- international marketing and trade agreements;
- macro economics;

*consumer behaviour; and
*social issues affecting agriculture.

A major difference between a course designed for the future and the traditional courses of the past is the increased emphasis given to the management environment that is external to the farm.

Management Process subjects provide the analytical tools and principles needed to make decisions. They include:

*physical planning;
*financial planning;
*management information systems;
*marketing;
*micro economics;
*personnel management;
*communications; and
*decision making principles.

The interaction of management environment subjects with management process subjects provides students with the tools to analyse real farm management situations. In so doing, it focuses them on applications in such a way that they are encouraged to integrate knowledge across disciplines, and to test for themselves how theories and principles might work in practice.

We believe this is best achieved through case study work, including visits to commercial operations. Depending on course and level, students can be expected to describe management approaches, identify key issues, analyse decisions, and prepare management reports. The issues and applications module highlights the degree to which forces external to the farm business affect its operation, it demonstrates the inter-relationships between management and technology in agricultural industries, and it applies a range of analytical techniques to imperfect information in an uncertain environment.

At our own institution, Queensland Agricultural College, a commitment has been made to develop a suite of farm management and agribusiness courses at associate diploma and degree level. These courses began in 1991. For the first time in at least ten years a substantive philosophical

review of farm management teaching is being undertaken. We believe that the model proposed in this paper provides a framework around which to build such courses and that these courses can be presented efficiently in both the internal and external modes.

In summary, therefore, we see exciting prospects for farm management education. Constraints that have limited achievements in the past have been identified, and there is a framework within which the future can be addressed. The challenge is now one of implementation.

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2

Target Groups

Retaining Teachers in Rural Schools: Satisfaction, Commitment and Lifestyles

Overcoming Distance: Isolated Rural Women's Access to TAFE Across Australia

Isolation and Culture: The Challenges for Teachers in Torres Strait

What About Me - Ever Thought About Including Rural Australians Who Also May Have An Intellectual Disability?

Non-English-Speaking-Background Children in Wagga Wagga Schools

RETAINING TEACHERS IN RURAL SCHOOLS: SATISFACTION, COMMITMENT, AND LIFESTYLES.

Colin Boylan, Ron Sinclair, Alan Smith, Don Squires,
Charles Sturt University
John Edwards, Anne Jacob, Des O'Malley,
Department of School Education, and
Brendon Nolan,
U.N.E. Armidale

Introduction

Access to an education of high quality is a basic human right. Issues of access to such an education are undoubtedly a predominant concern in rural areas.

'Access', then, manifests itself for rural communities in tangibles such as the range of subjects a school can offer, the availability of Years 11 and 12, the facilities a school can call upon in implementing its curriculum, the stability of staffing at a school and the quality of its teachers especially that of the Principal who has to manage and lead the entire educational endeavour of the community. A major concern is clearly, and rightly, the staffing of rural schools. Rapid teacher turnover, while considered advantageous because of the 'new blood' continually infused into the system, is generally not welcomed by rural communities because the disruption to school courses, the constant adjustment to new teachers demanded of pupils and other such factors are seen as disadvantages far outweighing the one or two possibly positive aspects of turnover. Good teachers who are prepared to stay in isolated communities for relatively long periods of time are therefore seen as assets to those communities.

The data reported in this paper came from a two year study into teacher retention and satisfaction in the rural regions of New South Wales. At the 1989 SPERA Conference, the team reported on some of the issues involved in attracting and retaining teachers in inland schools in the North-West, Western and Riverina regions of the state (Boylan, *et al.* 1989). That paper also provided demographic and biographical information on teachers who were regarded as long-term 'stayers' in their present schools - teachers with

at least 6 years experience in those schools. A group of 1100 teachers from an estimated population of 1363 constituted the study's sample.

In this paper further selected findings are reported from the research which, by its very nature, needs to be longitudinal. The question of why such teachers choose to stay for such lengths of time - that is, for periods well beyond the average for such areas - begins to be addressed in this paper. Specifically, information is provided here on the following concerns:

* teachers' levels of satisfaction with teaching and with their present situation;
* levels of expressed commitment to teaching by teachers;
* some teacher perceptions of their communities' attitudes to education, and how their communities regard them;
* teachers' transfer plans; and
* teachers' perceptions of life in rural environments.

Teacher Job Satisfaction

Research on employee turnover such as that of Price (1977) and Battersby, *et al.* (1990) suggests that enjoyment of one's job, not surprisingly, decreases the likelihood of the incumbent wanting to leave that job. More generally, job satisfaction has a strong positive association with the degree of enjoyment experienced in that job. In developing the present study, appropriate use was made in some instances of previous similar work (e.g. Walker, 1967; Sinclair, *et al.* 1988; Watson, 1988; and Watson, *et al.* 1989). Conceptually, Herzberg's earlier but still influential work provided an acceptable framework within which questions could be developed. Briefly, Herzberg (1966) postulated two basic human needs: the need for psychological growth, and the need to avoid pain. He referred to psychological growth needs as motivation factors because they motivate people to work harder and generate satisfaction. Pain avoidance needs, on the other hand, produce dissatisfaction and disruption in the work situation. However, they tend not to produce greater work effort. These latter needs he labelled, perhaps unfortunately, hygiene factors. The point is, in factor

analytic terms, that the so called '**motivators**' and '**hygienes**' are not at opposite ends of one bi-polar factor but are separate and distinct factors. The opposite of job satisfaction in these terms, then, is not 'no job satisfaction', and vice versa. Job *satisfaction* and job *dissatisfaction* must be analysed separately. Motivation factors are generally intrinsic to the work situation so that, as applied by teaching, they make it more satisfying - challenging, exciting, rewarding, and so on. The six primary motivation factors Herzberg listed: - achievement; recognition; the work itself; responsibility; advancement; and, possibilities for growth - provided guidelines for questions that might be asked. When such factors are positively represented in the job situation, satisfaction and the effort put into work tend to increase, though the absence of them does not typically produce dissatisfaction merely limiting job satisfaction and reducing motivation.

Hygiene factors, for the most part are extrinsic to the work itself, describe the context of work. They fulfil employees' needs to avoid pain. The sort of prime hygiene factors that cause dissatisfaction relate to matters such as: salary adequacy; relationships with superiors, colleagues and subordinates; physical working conditions; job security; status; organisational policy and administration; and, aspects of a job that impinge on personal life. Dissatisfaction is directly related to deprivation of the positive features of these factors.

Table 1 reports on this long-staying group of teachers' levels of satisfaction with their present appointment, and their greatest sources of satisfaction and dissatisfaction. In considering, *a priori*, the categories responses might fall into, Herzberg's work provided some useful initial stating points.

TABLE 1

Satisfaction with Teaching of 'Long Staying' Rural Teachers

Variable	Category	N*	%
Level of Satisfaction	Very Low	25	2.3
	Fairly Low	72	6.6
	Moderate	279	25.7
	Fairly High	525	48.4
	Very High	183	16.9
Greatest Source of Satisfaction	Staff Relationships	289	18.6
	Pupil Relationships	785	50.6
	Work Related Matters	289	18.6
	Personal/Community Issues	179	11.5
	Other Comments	10	0.6
Greatest Source of Dissatisfaction	Staff Relationships	285	23.7
	Pupil Relationships	149	12.4
	Work Related Matters	506	42.0
	Personal/Community Issues	112	9.3
	Other Comments	152	12.6

* For each question, a small number of teachers omitted their response. For their level of satisfaction, 16 teachers (1.5%); for greatest source of satisfaction, 43 teachers (3.9%); and, for greatest source of dissatisfaction, 106 teachers (9.6%) did not respond.

The table shows satisfaction levels to be high overall with 91% responding in the Moderate to Very High categories. When the reported reasons for this were analysed it was clear that professional personal relationships - with pupils especially, and with other staff were, overwhelmingly, the sources of greatest satisfaction. In Herzberg's terms a number of his satisfaction-generating motivation factors appear to be reflected in this result: positive outcomes of a teacher's work (Achievement), praise from others (Recognition), the authority to perform the job (Responsibility) and the chance to improve skills and abilities (Growth Possibility). Typical comments made about pupils, for example, referred to matters such as:

'good rapport with country kids';
'friendly happy children';

'good pupil/teacher relationships';
the 'positive response from pupils';
the fact of knowing 'all the children and their families' of really getting somewhere in 'encouraging children to learn and understand science';
and more generally,
'seeing the students progress from year to year'.

Commitment to Teaching

While a high commitment to teaching does not necessarily equate with intention to stay in a location it is more probable that a low level of commitment affects intention to stay in more than one way: it could increase the desire to move or, if an immediate transfer is not possible, it could result in a less than optimal performance in the present work situation. Commitment to teaching is a multi-faceted phenomenon. Though thought to be associated generally with satisfaction and hence performance at the work-face, a low level of commitment does not necessarily equate with low satisfaction and performance. Nor can it be assumed that 'commitment' in all its complexity is being appropriately tapped through questionnaire responses. Nevertheless, there is some utility in eliciting from teachers their own perceptions of how committed they are to the profession and the direction of change, if any, in the level of that commitment.

Table 2, then, reports teachers' expressed commitment to teaching, any change in those levels of commitment and the direction of that change.

TABLE 2

Expressed Commitment to Teaching

Variable	Category	N*	%
Level of expressed commitment to teaching	Low	29	2.7
	Moderate	178	16.4
	Fairly High	454	41.7
	Very High	426	39.2
Change in expressed commitment	Increased	193	17.8
	Remained Constant	577	53.3
	Decreased	313	28.9

* For commitment to teaching, 13 teachers (1.2%) did not respond; and, for change in expressed commitment, 17 teachers (1.5%) did not respond.

Nearly 81% of the sample reported Fairly to Very High levels of commitment with only a very small proportion expressing a 'Low' level. These data on *present,* expressed commitment were supplemented by questions on other temporal dimensions of commitment - the aspect of past commitment (whether or not they had ever seriously considered leaving the profession) - and an aspect, also, of *future* commitment: the likelihood of permanently leaving teaching. Results of responses to these future commitment questions, originally used by Mason (1961) in his United States Beginning Teacher study, and subsequently by Walker (1967) and, in modified form, by Sinclair (1982) in Australia are given in Table 3.

TABLE 3

Likelihood of Leaving Teaching

Category	N*	%
Definitely within 5 years	44	4.1
Probably within 5 years	119	11.0
Unlikely within 5 years	293	27.0
Extremely unlikely within 5 years	514	47.2
Will retire within 5 years	116	10.7

* 14 teachers (1.3%) did not respond.

Additionally, as stated, teachers were asked 'Have you ever seriously considered leaving teaching?' An affirmative response was given by 70.8% of the sample, with 29.2% of respondents answering 'No'.

Table 3 indicates that, notwithstanding the alleged current crisis in teacher morale in New South Wales (an issue this paper does not intend to pursue at this point) about three quarters of the group say they are less likely rather than more likely to leave. Excluding the 10.7% who say they will retire within 5 years, this leaves only 15.1% who see themselves as likely to leave and, of these, two thirds are in the 'probable' rather than 'definitely' category. These results are very similar to those reported by Sinclair, *et al.* (1988)

from a study of all 19 Central Schools of the Western Region of New South Wales.

A first categorisation of the reasons teachers in the present study offered when considering leaving teaching is given below with a typical example in each case of the comments made. These data are presented in Table 4 below.

As a follow up to the question on the likelihood of leaving teaching, as shown in Table 3, a further question was included which asked the teachers who responded affirmatively to indicate the reasons why they had considered leaving teaching. In Table 4, the 1144 reasons from the 779 teachers have been classified into 14 diverse categories.

TABLE 4
Reasons for Leaving Teaching

Category	Response N	Response %	Examples of comments made
1. School Personnel Relationships	71	6.2	'Conflict within school'; 'Executive incompetence'.
2. Seek Other Employment	98	8.6	'I wish to try another field of work'; 'offered double my salary'.
3. Workload at School	101	8.8	'Too much after hours work'; 'Being forced to teach outside my subject area'.
4. Salary Related	88	7.7	'Salary too low'; 'Low level of wages compared to private sector'
5. Department Bureaucracy	117	10.2	'Dissatisfaction with present policies'; 'Lack of support/respect for teachers by State Government/Department of Education'.
6. Teacher Morale/Job Satisfaction	132	11.5	'Dissatisfaction with Department'; 'Lack of recognition for effort'.
7. Promotional Opportunities	61	5.3	'Lack of chance for advancement'.
8. Personal Health	107	9.4	'High level of constant stress'; 'Stress'.
9. Political Influences	66	5.8	'Lack of support by Education Minister'.
10. Family/Personal Reasons	136	11.9	'Child-rearing'; 'To have a family'; 'Isolation from family/friends'.
11. Community Reasons	34	3.0	'Lack of community support'.
12. Student Related	52	4.5	'Lack of pupil discipline'; 'Student attitude towards staff'.
13. Teaching Related	52	4.5	'Lack of professional development'.
14. Never	29	2.5	'Not really considered it'.

These data presented in this table highlight the broad range of reasons provided by the teachers. At a global level these fourteen (14) specific categories can be reduced to two inclusive categories. The first is a general **education related** category which subsumes the following categories from Table 4: School personnel relationships; Workload at school; Salary related; Departmental bureaucracy; Teacher morale/job satisfaction; Promotional opportunities, Political influences; Student related; and, Teaching related reasons. This general category accounts for almost 2/3rds of all reasons offered (64 1/2%). The second general category which can be identified is one that is centred on personal **biography reasons**. This category subsumes: Seek other employment; Personal health; Family / personal reasons; and, Community-related reasons. This second general category represents 32.9% of the responses.

Teachers' Desire to Stay

A third series of questions, the first of which was taken from The Central Schools Project (Sinclair, *et al.*1988) were used to explore teachers' future plans as these related to their intention to stay in their present school or apply for a transfer to another New South Wales school. Table 5 reports the data from these questions.

TABLE 5

Teachers' Transfer Plans

Variable	Category	N°	%
Likelihood of transferring	Now	58	5.5
	At the End of the Year	107	10.1
	In 1 - 3 Years	199	18.7
	In 4 - 5 Years	98	9.2
	Not in the Foreseeable Future	600	56.5
Preferred Location for Next Transfer	Stay in Same Region	436	40.0
	Elsewhere	664	60.0
Preferred Location for Long-Term Transfer	Stay in Same Region	362	33.1
	Elsewhere	738	66.9

* 38 teachers (3.5%) did not respond to the question on the likelihood of transferring.

The table shows that well over half of the sample has no plans to transfer within the foreseeable future. Further, for three fifths of the group when the time came for transfer, it was to a part of the state outside the region in which they were currently teaching.

A closer analysis of the teachers' responses to their **short term** plans to transfer indicated that the five most favoured geographical regions within N.S.W., in descending order of frequency, were:

1. North Coast;
2. South Coast;
3. Riverina;
4. Northern Tablelands; and
5. Hunter.

Unpopular geographical regions of N.S.W., in descending order of unpopularity, were:

1. Wollongong;
2. Sydney; and
3. Western.

Finally, when teachers were asked to project well into the **future** or to a time near the end of their teaching career, 66.9% of teachers planned to transfer to a geographical region that was deemed acceptable as a region in which they could retire.

The five most popular geographical regions of N.S.W., in descending order of popularity, were:

1. North Coast;
2. South Coast;
3. Riverina;
4. Northern Tablelands; and
5. Hunter.

Unpopular geographical regions of N.S.W. for a long term move in descending order of unpopularity were:

1. Wollongong;
2. Western; and
3. Sydney.

Based on both the short-term and long-term transfer preferences for N.S.W. teachers, the desire to move to the coast is evident. This coastal preference has been reported to exist in the Queensland teaching service as well (McSwan, 1988) and is consistent with expressions of preference by graduating teachers in NSW as reported by Watson, *et al.* (1987).

Perceived Community Influences

It is likely that the way in which teachers perceive the community in which they work exerts an influence - possibly considerable - upon their preparedness to stay. Factors such as the degree of community appreciation of teachers' work, and the degree to which teachers' perceptions of how committed the community is to improving and supporting education no doubt all contribute to the influence a community ultimately exercises in the hearts and minds of its teaching force. In the present study such perceptions of community influences were tapped and are reported in Table 6 below.

TABLE 6

Teachers' Perceptions of their Communities

Variable	Category	N*	%
Community appreciation of the work of its teachers	Not At All	38	3.4
	A Little	280	25.6
	A Moderate Amount	576	52.6
	A Great Deal	201	18.4
Community Perception of 'Teacher as Local'	Not At All	173	16.0
	A Small Amount	349	32.2
	A Great Deal	344	31.8
	Completely	217	20.0
Community Committed to Improving Rural Education	Strongly Disagree	74	7.0
	Disagree	298	28.0
	Agree	586	55.2
	Strongly Agree	104	9.8

* 5 teachers, (0.5%), did not respond to the question on community appreciation for the teacher's work; 17 teachers, (1.5%), did not respond to the question of the teacher being considered a 'local'; and, 38 teachers, (3.5%), did not respond to the community commitment to improving rural education question.

The table reveals that, on the whole, teachers believe that their work is valued by their communities and that the communities are committed to improving education. However the results are far from being one way. A substantial minority (35%) disagreed with the latter proposition while well over a quarter do not feel teachers' work is appreciated. Moreover, nearly a half of the teachers sampled feel that they are not seen as 'locals' by their community. This, however, might in part reflect the desire of some teachers to distance themselves to a degree from their community.

Rural Lifestyle

Finally, teachers were asked to respond to two open-ended questions which sought to establish what they considered advantageous and

disadvantageous about a rural lifestyle. Approximately three quarters of all participants saw this open-ended invitation to respond as important enough to do so. The frequently mentioned perceived advantages were those of:

- a healthier, quieter, safer lifestyle;
- a good place to raise children;
- a smaller, more caring community;
- an absence of the problems that affect large cities such as the incidence of crime; and
- a plenitude of clean, open spaces.

Disadvantages perceived were clustered into several categories:

- the dearth of cultural activities;
- the 'tyranny' of having to travel long distances;
- the relative lack of educational *opportunities* for children;
- the lack of employment opportunities for spouse and own children; and
- the relative lack of health facilities and sports facilities.

These results confirm broadly what other research on rural education - though still very much in its embryonic stages - has tended to show. Matters of lifestyle and the interpersonal warmth that can be so compelling an attraction in small communities and their schools are of paramount importance. On the deficit side, Geoffrey Blainey's striking phrase 'the tyranny of distance' perhaps best encapsulates the problems perceived by teachers: they are a long way from the facilities - educational, medical, sporting, business and cultural - which together constitute 'civilisation' in the minds of a well-educated respondent group in this study. The disadvantages of working in the bush as articulated by teachers reaffirm what previous literature has had to say about why teachers leave rural appointments - too often as soon as they are able to do so (*cf* Boylan ,*et al.* 1989; Inverarity 1984; Turney, Sinclair and Cairns, 1980). On the other hand, Watson, *et al.* (1989) suggest that this deficit model that has guided approaches to teacher recruitment and retention overstates the effects of perceived disadvantage. They contend that if the prospect of rural service was offered to teachers as a 'challenge' - with appropriate preparation and adequate support - then there would be more opportunities for employing authorities to capitalise on the advantages reported by teachers of life and work in rural environments. These are issues that are currently being

probed in interviews as part of longitudinal case study research with long-staying teachers.

Discussion

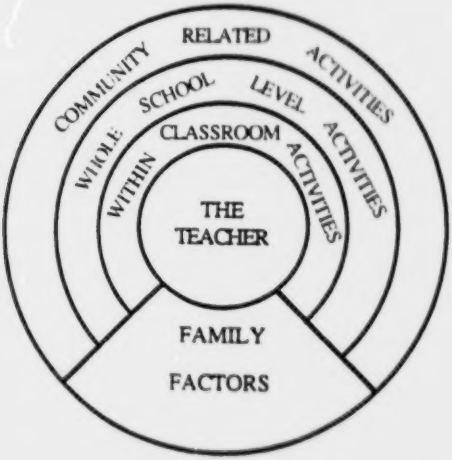
The overwhelming image to emerge from the findings presented is that long-staying rural teachers are satisfied with their career in teaching, they are committed to their profession, they do not wish to leave teaching nor their present rural location in the short to medium term future, they value their community's support for their efforts in the classroom and its support provided for rural education, and they find the rural lifestyle conducive in providing a quality lifestyle and for raising their children.

From our analysis of the data collected from 1100 written responses and from 140 follow-up interviews with teachers, we have generated a theoretical model for teacher retention through using grounded theory methodology. In this model, which has the teacher at its centre, four principal spheres of influence affect a teacher's decision to remain or leave. These influences link sources of teacher satisfaction and commitment with broader school, community and familial influences. The four influences have been labelled as:

1. Within Classroom Activities;
2. Whole School-Level Activities;
3. Community level activities; and
4. Family Factors

These influences are represented in the model shown in figure 1 on the following page.

FIGURE 1
MODEL FOR TEACHER RETENTION



In this model, teacher retention is represented as the complex set of interactions between the four principal influences. Two of the four influences have immediate and direct consequences for the teacher deciding to remain. These are: i) **the within classroom activities;** and, ii) **the family factors**. Both can operate independently of each other, although frequently these two influences operate in a complementary manner. The remaining two influences often provided the social context within which the decision to remain or leave was based, yet each was regarded as being influential in its own right.

Within classroom activities relate to the teacher's level of satisfaction and sources of that satisfaction with teaching, and to the level of commitment to teaching. The major sources of satisfaction for the teacher are derived directly from their interactions with firstly, the children in their class, secondly, the positive collegial relationships with fellow teachers, and, thirdly, the challenges implicit in teaching the children. From Herzberg's theoretical position, these sources are all 'motivators' that are implicit in and intrinsic to the teaching process. Teachers comments such as: 'Teaching children'; 'Friendly relationships with pupils'; 'An enthusiastic staff who are

ready to be innovative in curriculum and organisation'; and, 'Feeling that I do a worthwhile job with the students' reflect the main sources of satisfaction with teaching. Typically, high levels of satisfaction with teaching were found to correlate with high levels of commitment to teaching as a professional career ($X^2 = 358$, $p<.0001$).

Whole school-level activities emerged as an influence that reflected the breadth and variety of activities which teachers engage in outside their actual classroom teaching activities. This influence included two main components: i) relationship with colleagues, executive staff and regional personnel, e.g. inspectors; and, ii) work related issues, e.g. administrative duties, programming requirements, access to professional development, physical condition of the school.

When teacher responses were analysed for this influence, a somewhat surprising picture emerged. Overwhelmingly, the teachers regarded these influences as sources of dissatisfaction. In Herzberg's theoretical analysis of job satisfaction, teachers were citing external and extrinsic forces, or 'hygienes', as the potential sources of dissatisfaction. Typical comments included: 'Executive in promotions positions seeking their own advancement rather than putting interests of students first'; 'Lack of communication within the school - particularly when lessons are interrupted'; 'Composite classes do not give sufficient time to handle slow learners'; 'Fighting the paper warfare that takes time away from teaching'; 'Unsuitable classrooms'; 'Isolation - distance from Regional Office and Sydney, therefore inservice, consultancy, other areas of teacher support are very minimal'.

Community related activities represented a complex set of interactions. This influence covered parental support for the educational process within the school, involvement in the local community through various organisations, the development of strong friendships, the geographical location of the school, the safe environment within which children can develop, the rural lifestyle and its environment.

From the teachers' responses, it is evident that many teachers valued the community - level activities and regarded these as sources of personal satisfaction which facilitated their desire to remain at their present location. Interestingly, about half the teachers perceived that their community did not really regard them as 'a local' despite, in some cases, having lived in that community for 15 or more years. Through the follow-up interviews, it

emerged that different communities held various definitions of 'local'. In some communities, teachers would always be regarded as 'blow-ins'; other communities regarded a teacher as local only if born in the town/community while other communities accepted the teacher as a local after a long period of time (this varied from 7-10 years typically). From Table 6, about three-quarters of the teachers believed that their contribution to the education of children at the school was valued by the community. Comments made by teachers about their community-level activities included: 'Close ties with other members of the community'; 'Relatively free from some of the problems (e.g. drugs) that can be found in larger centres'; 'I know where they [their children] are and whom they are with'; 'Enjoying living in area'; 'I like country living and country people. This is now my home'; 'Favourable climate and natural environment'; and 'The small size of the school is conducive to a close relationship between school with community'. This analysis of the community level influence suggests that i) the community has an important role to play in retaining teachers in rural schools, particularly through assisting and supporting teachers to become part of the local community; and ii) the advantages associated with the rural lifestyle should be promoted in attracting teachers to rural schools.

The final set of influences, **family factors**, that affects a teacher's decision to remain is concerned with familial and personal issues. In this influence, issues such as home ownership, stability for and commitment to the family, quality of personal lifestyle, personal welfare/health, and contentment with rural living were seen as positive influences Comments made by teachers included: 'We bought a house in our first year here, started a family and so needed some stability and financial security'; 'My home is in this district'; and 'The community offers an excellent quality of life for my family'. Additionally, teachers mentioned a number of influences which could affect either positively or negatively their decision to remain. These included: availability of employment for spouse, continuity of education for their own children, access to sporting, social, recreational and cultural facilities. Teachers made the following comments: 'Wanted my children to go through the same High School'; 'Good recreational facilities'; and 'The fact that my wife now has a job after 9 years waiting to be re-employed'.

A further set of influences, mentioned by some of the teachers, was seen as negatively affecting their decision to remain. These influences included: a lack of personal privacy, economic costs associated with the isolation from services and facilities, a conservatism in outlook present in *some* rural

communities, access to tertiary education for their children, and a lack of local cultural activities both for their children and for themselves.

Typical comments made by the teachers that reflected this potentially negative component to this influence included: 'Distance involved in taking them [their children] places so they are aware of things apart from country life, e.g. Cultural events, etc. so that they don't become 'country hicks'; 'Time and expense of travelling to better facilities'; 'Less opportunities for some educational experiences, e.g. art galleries, etc'; 'Children have to leave area for tertiary studies - very difficult financially for teachers with one family income and not much assistance from Austudy'; and 'Ostrich - type mentality of local community'.

Taking an overall perspective on this influence, the majority of teachers reported positively on this set of familial/personal influences. They felt happy and contented with their present situation, yet were aware of areas of concern which required them to make compensatory efforts in some situations or may require major changes in their lifestyle when their children are approaching tertiary studies.

Conclusion

The overwhelming amount of evidence collated from this study clearly suggests that long-stay rural teachers are, on the whole, satisfied with and committed to teaching as their life-long career. They enjoy the interactions and friendships developed within the community and find the rural lifestyle one that provides a quality of life for their family and themselves that is hard to better elsewhere. The model for teacher retention developed suggests that three of the four influences affecting the teacher's decision to remain at their current rural school and location are powerful, positive, 'motivators' for staying.

Communities have an important role to play in the process of attracting and retaining teachers through accepting them into the community.

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OVERCOMING DISTANCE: ISOLATED RURAL WOMEN'S ACCESS TO TAFE ACROSS AUSTRALIA

Pauline Mageean
TAFE National Centre for Research and Development
South Australia

Findings

There are a number of key issues in the education of isolated rural women. For instance, barriers to rural women's participation in TAFE are:

- physical distance compounded by isolated and often unmade roads, the high cost of petrol and lack of public transport;
- time for this travel, the need to fit in with school timetables and seasonal farming pressure times;
- child-care for pre-schoolers and after school care for older children. Often there are no child-care facilities in small communities and no nearby neighbours;
- the low value our society gives to the unpaid work traditionally done by women. Consequently many women underestimate their skills and aptitudes. This frequently reduces their confidence to return to study. Similarly, rural communities are often more traditional in categorising work as 'mens' or 'womens' and those women who undertake non-traditional work or training may be criticised or ridiculed; and
- the stereotyping of TAFE as a 'male organisation'. Many mature age rural women will not consider that it has much to offer them unless a 'woman friendly' environment is developed and marketed.

The needs of isolated rural women are:

- to move into non-traditional areas of agriculture as the nature of farming changes and becomes more dependent upon technology and less on physical strength;

- to supplement farm earning by off-farm work or other entrepreneurial work due to the rural recession;

- for courses in both traditional and non-traditional areas as many look at ways of earning money or supplementing family income in areas such as dressmaking;

- for courses which provide the option of formal assessment and, where appropriate, articulation into, or credit towards, more advanced courses; and

- for time to be allowed during the planning stages of programs to research potential employment areas, including viable entrepreneurial activities which students could undertake.

Ways of overcoming the barriers and meeting needs include:

- community involvement. Potential students should be represented in decision making at all stages of the program. The community should 'own' its program by defining its own needs and participating in decisions as to how best these could be met and what should be offered - where, when and by whom;

- bringing the program to the women, whether locally such as in halls or schools or by distance education;

- providing an opportunity for human interaction and the sharing of educational experiences through tutorials, interactive technology etc;

- women-only groups, designed for and by women which provide a supportive environment while the women gain skills and confidence;

- gaining the most from the limited resources by avoiding duplication through programs and resources with other TAFE authorities and other education and community organisations. It is important to co-operate with existing community networks at all stages;

- flexibility and choice in courses offered to rural women as there are fewer potential students to fill specialised courses;

- making available subsidised child-care for all students who need it; and

- making available detailed information about courses. This information should relate the courses to rural women's interests and experiences.

Rural Aboriginal women want:

- to be taught the skills which will enable them to manage their own lives and communities;

- to participate at all stages of developing their programs - they do not want to be 'given' a program;

- their own women to be given the skills and opportunities to teach the courses targeted for Aboriginal women;

- programs to be delivered to them where they are, not to have to leave their communities; and

- special support for Aboriginal women who are not living in communities or must leave them to attend educational institutions.

Recommendations

The following recommendations are made in the report.

- Subsidised child-care be made available for all students who need it at all TAFE colleges. For courses organised by TAFE at other venues it should be provided through other means such as mobile child-care or family day-care.

- A percentage of positions in all programs for which there is likely to be demand from rural women to be held to allow country people extra time in which to apply.

- Central planning to pay particular attention to resources for those groups who are not being catered for adequately in mainstream provision.

The Educational Needs of Isolated Rural Women

It is recommended that:

- Programs for isolated rural women include, as far as possible, self-paced learning and a wide choice of electives to cater for individual differences in ability and interests;

- Programs be based, as far as practicable, on the expressed wishes of the students and the community;

- Training be offered to rural women in as wide a variety of vocational areas as practicable including both traditional and non-traditional areas; and

- Time be allocated during the planning stages of programs to research potential employment areas, including viable entrepreneurial activities which students could undertake.

Ways In Which Rural Women's Access to TAFE can be Facilitated

It is recommended that:

- During programs for isolated rural women ongoing contact between participants be fostered to enable them to maintain their own supportive network;
- TAFE, as far as possible, bring its courses to rural students wherever they are, rather than expecting them to come to TAFE colleges;
- Research be undertaken into informal learning centres in which TAFE is involved and TAFE non-vocational courses to discover their effectiveness as bridges into employment or more formal education;
- All TAFE colleges ensure that a complete listing of their externally offered courses be available on a readily accessible data base;
- A women's access co-ordinator be appointed in each country region nationally, to facilitate rural women's access to TAFE;
- All TAFE curricula, as a precondition for accreditation or reaccreditation, be made gender inclusive and reflect women's and men's needs in both content and delivery; and
- When courses are provided for rural communities, representatives of those communities participate in all significant decisions about the content, delivery, venue and (when appropriate) staffing of the program.

The Educational Needs of Special Groups of Rural Women

It is recommended that:

- Courses designed for isolated rural special access groups, or which have enrolled students from special access groups, be eligible for a special grant if this is needed to cover the cost of hiring transport for these students;

- Whenever programs are developed for isolated rural women, representatives from any specially disadvantaged groups in the community to be served participate in decision making and be consulted at all relevant stages of the programs' design, development and operation;

- A series of monographs be written to provide information for TAFE staff about the backgrounds and issues relevant to specific special groups and ways successful TAFE programs have approached these issues; and

- Additional non-contact time for professional development, community liaison and support services be allocated to lecturers whose classes contain students from specially disadvantaged groups of isolated rural women.

Rural Aboriginal Women and TAFE

It is recommended that:

- Special efforts, including designated funding, be made to encourage Aboriginal women to lecture in, and contribute to, every stage of courses run for rural Aboriginal women;

- Before any course for isolated Aboriginal women is developed the views of the potential students be sought and used as the basis for determining what is to be offered, how and by whom;

- Planning of courses designed for Aboriginal women include some means of ensuring that they are not isolated from their support group. Additional funding to be provided for this purpose;

- All TAFE courses provided for Aboriginal women be regularly monitored to ensure that they are responding effectively to the present and likely future needs of the community;

- Whenever non-Aboriginal TAFE teachers are to work with Aboriginal women they be given pre-service education about Aboriginal society and values. This should be designed to encourage them to be open to the different values and society in an Aboriginal community so that they can work *with* rather than *for* the women; and

- When decisions are being made about the provision, location, staffing, curriculum or implementation of courses for Aboriginal women, Aboriginal women be active participants at all stages.

Conclusion

Clearly TAFE cannot meet every demand. Priorities will have to be determined. Not only what is offered but how, when, where and by whom are key issues. One of the strongest messages that came from rural women all over Australia - from Aborigines, migrants, women on farms and in isolated communities is that they want community participation in decisions and processes at every relevant stage of the development of courses for which they are a target group. There is a need for clear pathways for participation by communities in this decision making.

For rural women to access TAFE, they must be able to identify with it, and have a sense of ownership of what is provided and how it is provided. This will require a two-way exchange of information, based upon respect for the many different life styles and values of rural women. While women's courses are under-resourced and their needs for appropriate teaching methods, curricula, child-care and time-tabling are largely unfulfilled it is not surprising that many rural women feel that their needs are not being met equitably.

One result of increased community participation would be to make programs more 'rural women friendly' - that is materials provided would be gender inclusive and use examples and role models relevant to rural women. It would also mean that from the very conception of the program, issues such as content, time-tabling and child-care would be planned according to the needs of the target group.

ISOLATION AND CULTURE: THE CHALLENGES FOR TEACHERS IN TORRES STRAIT

Barry Osborne
James Cook University of North Queensland
Townsville

The Origins of this Paper

I began teaching on Thursday Island in 1968 and stayed there for five years. They were challenging and exciting times. Some of my peers found the adjustments to their new environment difficult to make and left after brief sojourns. Others made adjustments and stayed longer. For most of us, the experience of teaching in Torres Strait is something we look back on as a special time - special because of the physical and social environment and the experiences we had as we taught children and young people from a culture different from our own. Special, also, because we had no preparation for the special setting into which we went. This paper attempts to synthesise some facets of that setting - the challenges faced by non-Islander teachers new to the region - as a basis for such preparation.[1]

This synthesis is based on a variety of data:

* three interviews each, over a nine month period in 1985, with seven teachers new to Thursday Island State High School (Osborne, 1988a);

* interviews with non-Islander principals and teachers (Osborne, 1988b, 1989) in which such issues were raised independently of my focus on 'takeover' effects;

* discussions with Torres Strait Islander leaders, principals, staff from the Far Northern Schools Development Unit, and non-Islander teachers; and

* literature from both the Torres Strait (Castley and Osborne, 1988) and other settings (Kleinfeld, 1975; Osborne, 1983; 1985; 1989a).

I must stress, however, that this paper derives indirectly from all theses sources. To my knowledge there has been no systematic attempt to

qualitatively investigate the topic - although at the 1979 Jumbunna twelve teachers newly appointed to Aboriginal and Torres Strait schools were given the written task of describing concerns (O'Riley, 1980). The current synthesis should provide a basis for further research into the topic, for in-service and pre-service support for teachers and principals appointed to Torres Strait, and for administrators in the Peninsula Regional Office of the Queensland Department of Education.

The Context of Teaching in Torres Strait

There are currently two high schools in Torres Strait. One is at Bamaga. It was established in the early 1970s, has students from Bamaga, from Aboriginal communities, and from outer Torres Strait, and offers classes to senior level. There is also a State primary school at Bamaga.

The other high school is at Thursday Island. It was established in 1966, has students from cosmopolitan Thursday Island (Orr and Williamson, 1973) and from the outer islands, and has offered classes to senior level since 1986. Thursday Island has a State primary school and a Catholic primary school.

Each of the fourteen outer island communities has a primary school. Until 1986, these schools had been run by the Department of Community Services (DCS) and its predecessors which employed (non-Islander) principals seconded by the Queensland Department of Education in some of the schools and partly-qualified Islander head teachers in the remainder. The teaching staff of the DCS schools were Islanders with varying amounts of teacher education, but none had full qualifications. Since 'takeover' in 1986 all principals have been fully qualified, some of the teachers are also now fully qualified and there is now considerable pressure for the partly qualified Islander teachers to upgrade their qualifications because Torres Strait Islanders want 'proper schooling' (Torres Strait Islander Regional Education Committee, 1985, p. 7).

Furthermore, the Torres Strait Islander Regional Educational Committee (1985) recommends among other things the linking of education to both culture and employment (p. 7), schools staffed by Torres Strait Islander and non-Islander teachers 'two together' (p. 8), and provision of appropriate

school buildings and teacher accommodation (p. 9). Many of these recommendations have been acted upon (Osborne, 1988a; 1989b). However, these changes have resulted in a sudden increase in the number of qualified non-Islander teachers and principals.

Some of the following discussion relates specifically to the outer islands. These vary in size from tiny (Warraber and York, for example, to very large - Saibai and Darnley, for example). They also vary from low, swampy, mud flats (like Boigu and Saibai), to coral cays (like Warraber, York and Coconut), to hilly with fertile, red, volcanic soils (like Murray and Darnley).

The outer islands are linked with each other via Horn Island and/or York island by small planes or helicopters; by cargo boats which periodically bring food and other essential items; by dinghies and fishing boats; by telephone (generally one per island); and by radio particularly through the Torres Strait Islander Media Association. Furthermore, by air and ferry Thursday Island is some three hours away from the nearest city of Cairns. Hence, isolation is a major aspect of life for teachers in Torres Strait. At the same time many have to 'simultaneously struggle with the need of coming to grips with their profession, of independent adulthood, often of the early years of marriage, of isolation from friends and families as well as colleagues' (O'Riley, 1979, p. 10). Of course, all have to live within a culture which is entirely different from their own.

Findings

This paper identifies the various ways in which non-Islander teachers and principals respond to the challenges of isolation and culture. Accordingly, it goes beyond much of the Australian literature which simply identifies the challenges, needs and anxieties (O'Riley, 1980; Editorial in *Pivot*, 1984; Telfer, 1981). Telfer also argues for 'professional development support for beginning teachers in isolated areas'. Besides, Inverarity (1984) categorises the challenges as physical, interpersonal, cultural, intellectual or personal and Cheers (n.d., pp. 4-5) makes some assertions about the nature of North Queensland communities and advises workers to 'adapt', 'join in', and 'avoid factions'. Instead the current paper shows that some see both the local environment and the local culture as resources to be enjoyed and to be

used in their curriculum while some cut themselves off from both and in so doing fail to harness either in their teaching.

Both the Queensland Department of Education and the principal at Thursday Island State High School at the time were aware of these aspects of life in Torres Strait - and provided support in various forms for teachers/principals new to the region. For example, the department made special arrangements to provide staff with one flight per year to Cairns as well as one flight per year as far as Brisbane. Furthermore, it organised two seminars for the principals on the outer islands during 1986. They also provided some in-service support for the Islander staff and are developing curricula for use in Torres Strait via the Far Northern Schools Development Unit based on Thursday Island.

Thursday Island

The principal at Thursday Island State High School introduced a variety of measures to assist his new staff, including:

* mailing a staff handbook (outlining school policy, providing readings about the history, geography, learning styles of the region) as soon as the teacher was appointed;

* having a staff member meet all new staff as they arrive at the wharf on Thursday Island;

* running a two-day staff induction workshop which included Islander speakers, videos of the local and outer island communities, discussion of local mores and culture;

* organising staff to attend camps on nearby islands with different year levels of students so teachers could get to know students and their strengths better;

* organising staff visits to outer islands so new teachers could get to know a little about their students' communities and families;

- employing a community education counsellor to act as a link between teachers and parents;

- organising, during 1985, a series of three in-service workshops (ET (Excellence in Teaching); RTESA (Raising Teacher Expectations and Student Achievement), and ESL (English as a Second Language);

- making aspects of Torres Strait culture highly visible within the school via

  - house names;
  - art, canoe decoration, murals;
  - school prospectus in English and local languages;

- introducing subjects like Torres Strait Studies which encouraged rejuvenation of local culture in practical ways;

- employing visiting residential artists at the school to demonstrate their skills (like carving and dhoeri making);

- preparing school publications about local matters like pearling, cooking, the outer islands (and more recently World War II, songs of Eastern Islands); and

- encouraging oral history/social history interviews within a variety of subjects.

I have shown elsewhere that, three weeks into the school year, all but one of seven teachers new to Thursday Island State High School were very happy to be appointed there (Osborne, 1988, pp. 53-54). Several themes emerged from my earlier analysis of their first reactions to arrival:

- slowing the pace of life which some teachers enjoyed and which frustrated others;

- differential reactions of male and female teachers and the fact that at least one family felt that men and women Islanders responded differently to them;

- different reactions of the young women to some of the expressions of norms of local behaviour;
- concern, particularly from the married men, about the late arrival of their furniture and goods, about mildew, and about overgrown gardens of their houses;
- appreciation at being met by a staff member at the wharf;
- a general feeling of pleasure at being on Thursday Island; and
- concern about how to mix with Islanders and concern about the lifestyle of some of them (Osborne, 1988a, pp. 59-60).

The main initial reactions to teaching were that the students 'were very good' but that there were some frustrations:

- the sexual maturity of some of the boys which was disconcerting for one of the young women;
- the unfamiliar language which kids used which caused some uncertainty among the teachers; and
- the difficulties, at times, of teaching kids whose first language was not English (Osborne, 1988a, p. 64).

By the second set of interviews in May some of these concerns had intensified or faded. While some found it 'good to get away from the island' another said he 'needed to get away from the island so (he) could travel in a straight line'. He felt 'trapped on the island'. Similarly, concern with maintaining relationships at a long distance became a major concern for the two young men although the two young women did not express such a concern. Others were concerned about the shallowness of new friendships formed on Thursday Island, shallowness when compared to friendships which had been 'built over years down south'. Another frustration for at least three of the teachers was the huge delays in receiving equipment ordered from south. All of these concerns seem to me to be related to isolation.

Others seem to be related to culture. Some were still 'mixing mainly with teachers' and were finding it 'hard to meet the locals' and found this syndrome 'very annoying and hard to break out of'. Others lamented simply 'I still don't know a lot of Islanders' or 'I never get invited to go fishing by the Islanders I have met'. Conversely, another man explained how, when he felt uncomfortable during an outer island visit, two of his students introduced him around and ensured that he was included in local activities. A young woman explained how uncomfortable she felt during an outer island visit until a local Islander (now a principal) personally encouraged the teachers to be involved in Islander activities. Another young woman was a little uncomfortable because she went with an Islander boy friend and she had to 'play the female role' rather than do what she wanted to. Another young woman, who was keen to be involved in social events reported, 'feeling strange at a tombstone opening', like 'a tourist'.

Two were concerned about the goals of education: 'what do they (the parents/community) want me to do?' and 'there is a sense of unfair competition, Torres Strait and mainland'. I took this latter comment to mean that given the existing goals and syllabi, Torres Strait Islanders were competing unfairly with students on the mainland. Several of the teachers complained of having to 'push' the students all the time, and 'how slow they (were) to get started'.

By the third interview in October, these patterns of some making adjustments to the local scene had become firmly established. For some it was 'beautiful, the absence of hustle and bustle is great'. Others were starting to use the local physical environment and culture. One teacher saw the local community as - a resource - his class photographed it and investigated the ships which called in to the port. Another saw a 'variety of scientific areas to our disposal', including physical features (like the reef, terrain, vegetation, currents, tides) and social (like food gathering and cultivation, plant use, and transportation).

Conversely, others were becoming wearied with the repetitious nature of cabarets, hotels and even 'the scenery'. Furthermore, they appreciated the trips to the mainland to renew or continue old friendships, to eat in a variety of restaurants, and to participate in forms of entertainment not available on Thursday Island (like concerts, plays, movies and horse riding. (While Thursday Island is an excellent centre for hiking, scuba diving, boating,

swimming, camping, fishing, snorkelling, crayfishing and sailing it cannot offer the range of entertainment available in Queensland's larger cities.) Those who felt this aspect of isolation most keenly were those who engaged in little social mixing with Islanders. Those who mixed with Islanders, 'at the pub and at football' or 'through the church' seemed quite content on the island although they, too, looked forward to the trips south.

At the same time the young man who was able to develop a large circle of friends 'through the church' was concerned that sometimes these social aspects of his life produced a real risk of him 'being overwhelmed by those and other commitments'. The other commitments referred to the need to socialise with other teachers as well as the press to be involved in much in-service work at the school - all of which he saw as impinging upon the time available for marking and preparation. Furthermore, while the church provided him with a focus for mixing socially with Islanders it presented some contradictions too. For example, he was 'unsure of the role of tombstone openings' from his fundamentalist position. Furthermore, he notes with some regret that he spent 'more time with church goers' than with others.

As I observed in classrooms during the year it was clear that those who got out into the community, who mixed with the Islanders socially, who knew about the local environment, were the ones who were able to relate the everyday experiences of their students to the curriculum and they were the ones whose interactional styles were responsive to the local culture. There was just one example of someone who mixed regularly and who perceived a loss of respect from the students because of the teacher's disregard of local norms of behaviour which persisted to some extent throughout the year. Conversely, some made little contact with the Islanders by either staying at home or by boating, snorkelling, or fishing only with fellow teachers. Indeed one non-Islander teacher on an outer island indicated to me that he saw no point in attending local events or even going into the village. So, while I have reported elsewhere that 'the community and local environment are seen by increasing numbers of primary teachers in general as desirable curriculum source' (Osborne 1989b, p. 11) it was not universal among non-Islander teachers in outer Torres Strait and it was certainly not evident in the teaching of three of the high school teachers at least until October when one of the three had just started community interviews with one class. The other

two made little use of the local community while I was observing a videotaping in their classes.

Nevertheless, others had started to use the local environment and community initially in fairly small ways (Osborne and Coombs, 1987), but ultimately in quite substantial ways. Quite clearly the principal had also done much to incorporate local culture into the school, to legitimate local knowledge and language, and to encourage school-community interaction.

Because of the size of the school, with over thirty teachers some components of isolation mentioned by others - 'lack of peer interaction' (Editorial, *Pivot*, 1984, p. 37) or 'academic discussion' (Inverarity, 1984, p. 17) were not relevant to the seven teachers at Thursday Island. The situation was quite different for the outer island principals, however.

Outer Islands

I have described the dilemmas faced by such principals elsewhere. For example, some of the principals expressed:

> concerns about living on a remote, culturally different island. Some principals and their spouses were unprepared for the isolation. The pressures placed upon marriage by the isolation were considerable. For one thing, there is little opportunity for communication with other non-Islanders. There are occasional phone calls and letters - much of this communication originates from Regional Office or from FNSDU. Besides, there is radio which provides a link with the outside world, but there are rare opportunities (at least on some of the islands) to 'sit down and have a good chat'. Spouses often find this difficult if they are not employed and loneliness can be a major problem. There are also problems associated with only periodic stocking of the local store so that frequently principals organise alternative sources of supplies for essential food and 'little luxuries' not stocked locally. Some principals felt that these facts of life were not understood by some administrators and that 'as many administrators as possible' should visit to become aware of 'the different world we live in' (Osborne, 1989b, p. 22).

Perhaps even more fundamental is the sense of uncertainty created by the bi-cultural environment in which principals find themselves. One principal put it like this:

> Do the Islanders really want us here ...? If only I knew what the local people felt about me.

This same principal also mixed socially with Islanders and expressed frustration about not understanding Islander ways (even though she accommodated to them well). An Islander confident quietly reassured this principal with:

> you'll never understand us, because you are not one of us

The dilemmas of what to do as teachers, how to understand the locals are not confined to teachers and principals in Torres Strait. Kleinfeld (1975) records the debilitating effects of such uncertainties among teachers working with the Inuits in Canada. The issue of understanding people from another culture is one that, on the basis of my research work among the Zunis of New Mexico and Torres Strait Islanders, I refer to as fused biculturalism (Osborne, 1989b).

As in the case of some of the teachers (and the principal) on Thursday Island, the principals in outer island schools were accommodating to the local environment, and the local culture in their schools. Some ways they did this include:

- videotaping the traditional dance Adhibuya, having students write the story of the dance using local elders to check the authenticity of description;
- revitalising weaving skills to build a shelter at school so that young women in the community who had never woven mats before learned the skills from older women;
- sending all classes to the village for the ceremonial unfurling of the first traditional canoe decorated in the last fourteen years;

- having community elders come to school to talk about their childhood, fishing, housing, etc.; and

- sharing recipes from school with families and vice versa.

Such accommodations are clearly within the recommendations from the Torres Strait Islander Regional Education Committee (1985) which encourages linking culture and school and also provides answers to questions like 'What do the Islanders want us to do'.

Summary

I have provided evidence to suggest that some non-Islander teachers and principals are able to fit into the various communities in Torres Strait. They may feel uncomfortable about becoming involved in Islander activities like feasting and tombstone openings but they persist. They may be helped by intermediaries (Kennedy, 1986, pp. 67-85) like their own students, Islander teachers, or community education counsellors. Nevertheless, they persist, become increasingly comfortable socialising with Islanders, and are in a position to accommodate the local environment and everyday happenings within their curriculum. I would argue that this is crucial in developing culturally responsive pedagogy or:

> adjusting and readjusting teaching practices and content of curriculum in such a way as to assist students to develop appropriate classroom behaviour and hence improved levels of academic achievement because they are building from existing skills and knowledge in ways with which they are at least partly familiar (Osborne, 1989c, p. 6).

Not only is socialising crucial to this process, Islanders claim that teacher or principal should be "a learner and fit into the community" (Castley and Osborne, 1988, p. 9) and that "if the principal (and teacher) sits and talks with them, the parents may find themselves free to talk to the teacher or principal" (p. 11). Then the teacher or principal may obtain even more specific guidance about appropriate goals for Islander children than is already available in the policy statement of the Torres Strait Islander Regional Education Committee (1985). This, then defuses the possibility of

debilitating uncertainty about what Islanders want for their children from school. Not that all parents will agree on appropriate goals (see the variety of opinions even about appropriate languages in Osborne (1989b). Nevertheless, a mechanism is suggested which can help teachers and principals find out what Islanders want: sit and talk with them so that the Islanders develop confidence to say what they want.

Implications

This advice to sit and talk seems simple. However, it is not easy to heed. It takes time to sit and talk. It takes restraint not to ask too many questions. It takes patience when talking does not lead to answers to issues about which the teacher or principal might want Islander opinions. Teachers are busy people. They are trained to ask a lot of questions. We are often impatient to find answers or hear expressions of opinion. In these ways we are not well prepared to heed the simple advice. However, if we do, then the chances of strong school-community bonds, of culturally responsive pedagogy, of learning from and with local Islanders are probable outcomes. Outcomes which I see as highly desirable.

There are several ways to assist teachers and principals new to Torres Strait to make these demanding adjustments. In preservice programs the desirability and usefulness of such adjustments could be highlighted. Whilst this paper has investigated the specific context of Torres Strait, a whole variety of Aboriginal community contexts would be suitable for making these kinds of adjustments. Besides, similar kinds of adjustments would be useful for teachers in small rural communities with particular pastoral, mining or tourist foci. Hence, while the specific adjustments might vary from context to context, the need to adjust to particular contexts could be an emphasised theme in a variety of curriculum or professional development courses.

Clearly, also, much in-service support can be provided at the school level. Thursday Island had much of this in place: the situation for outer island principals and teachers is more complex. They have a small network of peer support, spouses may have little, face-to-face, non-Islander support. Maybe in-service support by way of advisory teachers, by way of periodic meetings of principals and/or spouses from nearby islands, by administrators visiting islands to get to know the challenges faced on the

outer islands, by the installation of phones in each school, and by continuing to provide trips to Cairns and Brisbane should play a part in helping principals and spouses to adjust.

I believe, too, that Torres Strait Islanders need to address the issue head on. They can act as intermediaries to help teachers and principals become comfortable in the new culture in which they find themselves. While as newcomers we may never fully understand Islander life, we can come to understand enough of it to feel comfortable and to be able to accommodate to it in our curriculum. Some of the teachers at Zuni were able to do this, despite the difficulties (Osborne, 1989d) and some of the principals in Torres Strait during the data collection phase of this study were able to, as well. It seems to me that overcoming the initial uneasiness is something that has to be endured to achieve this state and Islanders can alleviate some of the uneasiness.

They can also help would be teachers and principals get an insight into Islander life if they become part of interviewing panels selecting applicants for appointment to Torres Strait schools. They could spell out some of the difficulties, some of the challenges, some of the details of island life and so help applicants make realistic decisions about teaching and living in Torres Strait. They could also gauge the attitudes of applicants and their likely suitability in the community. In fact, Islanders have asked for this privilege of interview (Torres Strait Islander Regional Education Committee, 1985, p. 9). Indeed the Zuni School Board did interview applicants, explained about the lack of entertainment and the sense of isolation at Zuni:

> School Board Member:
>
> We know we are in a remote area. We know we don't have any forms of real recreation to offer them and no social life, and these are the things we try to make them see before they come to teach so that the choice trapped into something they didn't want .... We make sure they understand what they're coming to and if the commitment is really there, they'll come regardless of living conditions, regardless of social activities. They'll come because they want to teach Zuni children ... I do feel that we have the best qualified and best crop of teachers we've ever

had. There are some really fabulous, committed teachers here (Osborne, 1983, p. 311).

I believe that Torres Strait Islander Regional Education Committee is equally as realistic as the Zuni School Board and could assist in the selection of principals and teachers who are applying to a region with far more leisure activities than there were at Zuni and many of the same challenges the teachers at Zuni faced. Perhaps, with the new moves to devolve decision making into the community in Queensland, the Torres Strait Islander Regional Educational Committee's recommendation may be embraced.

1. There are now fully qualified teachers and principals being appointed in Torres Strait. Some of them may be new to the region and so face some of the challenges of non-Islander teachers. However, even if they were raised in Torres Strait they will still face special demands (Osborne, 1985).

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WHAT ABOUT ME

EVER THOUGHT ABOUT INCLUDING RURAL AUSTRALIANS WHO ALSO MAY HAVE AN INTELLECTUAL DISABILITY?

Libby Cross
Director, Services, E.W. Tipping Foundation

James Burrell
Program Services Co-ordinator, S.H.A.R.R.

Swan Hill and Regional Residentials

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Access, Equity, Participation, Rights .... what about those rural Australians with intellectual disabilities? What consideration is given by educational providers to their needs? We are going to give you possible scenarios to illustrate some of the problems and also some of the options for inclusion that are not only viable, but have worked.

Thumb-Nail Sketch

Joan is 26 years old, from Hawkston, attending the Lady Hazel Centre in Keatsville on a full-time basis. Hawkston is a small township with a population of four hundred, and is approximately sixty kilometres away from both Keatsville and Button. Both these towns have populations of six and seven thousand respectively. Joan is said to have a mild intellectual disability, and has been in the Special Education system since she was five. Her verbal skills are such that she has good receptive language, but her expressive language is often difficult to understand. She can recognise at least ten survival words and signs, and is familiar in travelling around the townships of Keatsville, Button and of course Hawkston. Joan uses small amounts of money with assistance, and often runs messages for both the staff at the Centre and her family.

At the Centre she is involved in the contract section of the Unit. She packs and checks bags of knives, forks, spoons and serviettes for a major airline. The staff at the Centre say she is conscientious, reliable and works well with

the other participants at the Centre. Joan arrives at work each day very neat, tidy and is always very particular about her appearance.

On occasions Joan is considered the best worker at Lady Hazel, but there have been times when (frustration at her inability to be understood by others, and at the repetitious nature of her work) she has been quite aggressive and hostile to authority.

Joan lives at home with her parents and younger brother and all offer her support and encouragement. Currently they are very concerned about the reports they are hearing about Joan's behaviour, and are now convinced that Joan needs more activities and interest in her life.

Scenario A

One afternoon at 3pm Joan's 24 year old brother Joh, met Joan at the Centre and together they go to the local TAFE college at Keatsville, to see what extra curricular courses may be of interest and available to Joan. Their first port of call was the reception desk where they were directed to Course Enquiries.

After a brief conversation with a staff person from Course Enquiries they are pointed in the direction of a display unit that is covered with brochures and advertising blurbs of all the courses the College offers. Joh tries to pick out a selection of possible options for Joan, and they take seats in the reception area to study them more carefully. The courses she would like to investigate further are:

Basic Typing
Adult Literacy
Basic Horticulture
Food Preparation and Waiting

Both Joh and Joan are impressed by what is offering at the College and hopes are raised that this may well add an extra dimension into Joan's life. Unfortunately there is no-one to assist them that afternoon with their more specific enquiries so they return home to discuss issues further.

The brochures that Joh read aloud to Joan provided a lot of much needed information, all of which helped in their decision-making. They found out

that these courses could be offered after 5pm, these courses were all quite affordable, the aims and the content of each, and that none of these courses had any pre-requisities. This drew a sigh of relief from Joh who was not convinced that Colleges did provide courses for those such as Joan. One piece of information they learnt from their reading was that Basic Horticulture had two components, one of theory and one of practice and students must do both components. As the theory included soil composition and the like, Joh explained quite clearly to Joan why this may be very difficult for her and not as much fun. Joan accepted his opinion and concentrated on the other options.

The next step in this scheme was to contact the right people at the College to see about enrolling. Joh said he'd make some calls the following day. This he did. It wasn't easy as the course counsellors suggested that they speak directly with the teaching staff and they were all in class or out at another campus. It was the following week before one of these teachers returned his call and made an appointment for himself and Joan to meet with her and discuss joining Basic Typing. Even though it was a week later Joan had lost no enthusiasm and spent an enormous amount of time preparing her clothes for the interview the following day.

The teacher from the Secretarial Department only had to hear Joan speak to realise that typing wasn't for her. She would not be able to meet the pre-requisites for the course. Pre-requisites!! According to the publicity blurbs there were no pre-conditions for enrolling in this course. Well no, there aren't any actual pre-requisites, but I mean we do assume certain things. Well what things?

So a very flustered Teacher defensively asked Joh whether Joan could read or write, how long she was at school for, what she was doing now, where she lived and if she could look after herself. The interrogation left both Joh and Joan exhausted, although none of the discussion was actually directed at Joan. From what they could ascertain from this conversation it appeared that certain assumptions are made about part-time students. These include:

Being able to read and write;
Having at least ten years of schooling;
Currently have some type of paid work; and
Can independently travel - just to name a few.

Joh drove Joan home in a state of shock. He really had not expected what had just happened. He had no opportunity to say what Joan could do, because the entire focus of the conversation was on what she couldn't do. What irritated him the most was that they were talking about her as though she wasn't there, and he was equally as guilty of doing that as was the typing teacher.

So the Scene has been set ...

It appears that although there are no pre-requisite skills for many courses there are some basic unchallenged assumptions. These assumptions are quite correctly based on the staff's experience on past students. They therefore are in no way unfounded assumptions. They may however be out-of-step with such ideas as Equity, Access, Participation and Rights. It also may well be the time to challenge them.

Segregated services have, by their very nature, created a whole range of ideas and misconceptions about disability. The community at large and generic service providers have merely been victims of the isolationist practices of the past. Actually it not only happened in the past, numerous existing services are still based on protectionist policies. It is not until we all let go a bit more, will we ever know the real potential and abilities of many of these people.

Segregated services have either consciously or subconsciously given messages to the larger community that people with disabilities, especially those with intellectual disability:

- need supervision;
- can't take care of themselves;
- are a risk to themselves and the community;
- should be protected from failure;
- can't speak for themselves;
- are happier with their disabled peers;
- need a great deal of assistance; and
- learn so slowly, it is better to concentrate on "life skills", and independence than any broader notion of education.

The above list are just a few of the more commonly held misconceptions in our community and probably the list is not exhaustive. You, personnally, may hold none of these feelings, but if you don't it is probably through knowledge and experience with disability rather than through natural perceptions. Segregated services have led to such limited contact that it is not at all surprising that such thoughts and ideas are still common.

These messages have neither been malicious nor intentional, however this does not change the end result. The end result is that some of these images have led to people's belief systems, and, in turn, these beliefs have been instrumental in decision-making. The obvious assumptions that can be made by educators are that there are a huge range of courses that would be of no interest, nor use to persons with a disability. Working under such assumptions it is reasonable to assume special consideration for people with disabilities would be unnecessary. However if, as in the initial scenario described, these assumptions need challenging, then the following barriers must be addressed at every stage of decision-making for an educational facility;

- selection of courses;
- physical access;
- barriers to entry;
- procedures for enrollment;
- distribution of advertising and promotional material;
- fees and other associated costs;
- content, and delivery strategies; and
- assessment options.

Let us look at an alternative scenario for Joan. We will rejoin the story after the first visit so we already know that Joan and Joh have studied the available literature on what's offering in the next semester.

Scenario B

Joan rang the college herself the following day, and the receptionist suggested that Joan make an appointment with the information officer, this she did. Joan made a time that suited both herself and Joh, because she felt he would offer support and assistance if necessary. The time was 4.30 on the following afternoon.

The information officer picked up from the receptionist that Joan was primarily interested in enrolling in some sort of office work course, and so invited one of the department teachers to be present. By 4.40 Joan, Joh, the information officer and the teacher were comfortably seated in an office and discussing Joan's pending enrolment. Both the information officer and the teacher had concerns as to how Joan would cope. So they asked her direct questions and openly discussed potential difficulties. Between Joan and Joh they received answers that did not completely allay their fears but did give sufficient information for them to assist in what was to be a group decision-making exercise of potential enrollment. They learnt that although Joan could not read or write very well, she knew all her letters and could transcribe accurately. Joan's current work situation at the Centre was not what she was interested in and that she was highly motivated to learn to type, and to try something very new. Questions of personal care and physical assistance was not an issue as Joan's presentation did not give any indication of anything but a competent and independent young woman.

The teacher pointed out quite honestly that Joan would not stay abreast with the content nor with the speed that she hoped the other students may attack the existing curriculum. The information officer suggested that Joan may well have active participation in discussions and up-front teaching directions, however when it came to typing texts, exercises and tests that Joan may choose to use their self-paced learning packages and work on these set tasks at her own speed. This would in fact mean that Joan would be using the off-campus material with on-campus teaching. This would offer Joan the advantages of the integrated classroom experience, a chance to meet and make new friends, and working at her own level of competence.

Those present thought that such a plan well addressed the college representative's concerns about Joan's participation. Joh however still had concerns that Joan may not mix well with the non-disabled students and be alone and unhappy on-campus. Joan agreed she was scared and that people often didn't take the time and effort to talk to her much, as they found her hard to understand at first and also had to concentrate more than when talking to others. Joh asked if he could attend the first few classes to help Joan settle in and to help her meet and chat with others before classes and during the tea-break in the middle of each session. The information officer suggested he may like to be at the canteen during the tea-break, but that it may be harder for Joan to settle in with others if her brother was

overseeing the class and individual interactions. Joan thought that that would be better too. This meeting ended with the following decisions agreed upon:

1. Joan would attend a basic typing class held between 6pm and 8.30pm each Tuesday of Term 3;

2. Joan would participate as a regular group member during all up-front teaching sessions and class discussions;

3. Instead of the regular text book, Joan would use the off-campus self-paced packages in the classroom;

4. After approximately four classes they would meet again and the teacher would be in a better position to set appropriate assessment objectives for Joan to achieve by the end of term;

5. To assist in the social aspects of college life, Joh would meet Joan in the Canteen during the tea-breaks for the first few weeks. This would also be reviewed at the next meeting; and

6. The group would meet again to review these decisions and discuss any arising issues at 4pm on the fifth Tuesday of Term 3.

So the scene has now been set for Joan to have a go!!

Joan may never be able to type to any degree of efficiency, but then again she may. Joan could well end up using a keyboard on a computer. She may well be able to assist community groups by typing envelopes and preparing for long and tedious mail-outs. Whether paid or unpaid the self esteem and value attributed to such tasks would be of more reward than anything she has known to date.

In scenario B the college staff met with the potential student and through open discussion checked their information, and any unknowns that were creating uncertainties. What preconceived ideas they may have had will never be known, but what is known is that they were able to negotiate a process that will allow Joan to be part of not only an active community

program that may lead to numerous other opportunities for her, but a highly valued endeavour.

In Joan's case the college did not have to address other issues such as physical access or assistance with physical needs. The approach the College made with Joan indicates that they were probably flexible enough to at least look at what local options existed if her needs did require such assistance.

In the discussion above we have just briefly touched upon many of the issues surrounding **initiating the involvement**. Once this has been achieved we need to consider **maintaining the involvement**. Some providers have addressed these entry barriers only to find that students have not stayed with it. Many do not know why. If we are to try to come to terms with the problems we need to be clear as to what the true reason for leaving courses are. It could be a range of reasons:

* Was it loss of motivation?
* Was it lack of on-going support?
* Was it a lonely experience?
* Did they choose the wrong course and just want to leave?
* Was it all too difficult?

We must at least follow up students after they drop out in case it is possible that their leaving could be prevented. Supports often do drop away without people realising how detrimental this may be. We cannot address these problems if we are unclear as to what they are.

Opportunities in the community for people with disabilities are changing and developing all the time. Colleges and community education centres only need to remember that people with disabilities are individuals, with individual needs, interests and competencies. It has been the cycle of ignorance that has made us all as unprepared and thoughtless as we sometimes appear to be. This cycle is perpetuated through lack of contact with people with disabilities, and this lack of contact has reinforced prejudiced views and misconceptions. People with disabilities are now out and about in all aspects of community life, some enjoying far more positive experiences than others. It must be remembered that attitudes are the greatest barriers

to inclusion and participation, and that inclusion and participation are the only real ways of changing attitudes.

NON ENGLISH-SPEAKING BACKGROUND CHILDREN IN WAGGA WAGGA SCHOOLS

Marietta Elliott
Charles Sturt University - Riverina

Introduction

Australia has become one of the most ethnically diverse societies in the world. Four out of ten people are immigrants or the children of immigrants. Half of these are from non-English speaking backgrounds (NESB). The impact of this influx of NESB immigrants is only just beginning to be felt in country areas like Wagga Wagga. There is evidence, however, that the trend is growing and that a number are forsaking the cities and settling in country areas. Therefore, a review of rural education should include some consideration of how NESB students are faring in country areas.

A survey of NESB children in Wagga Wagga schools has recently been carried out by researchers at Charles Sturt University, Riverina. The report, 'From the Back of the Crowd' (Literacy Centre Network, CSU, 1992) details the findings of this survey. It is my intention here to give an overview of the report's findings and to discuss some of the issues the report has raised. I will begin with a brief introduction relating to the incidence of NESB children in the schools, setting these in the context of Australian settlement generally, provide some background relating to treatment of NESB children and to programmes in place to cater for these, summarize the findings relating to the way in which the local schools are dealing with NESB children and finally discuss the report's recommendations.

According to the latest census figures available (1989), only 4% of the population of the local government area of Wagga Wagga were from NESB, while a further 3% had parents who had been born in a NES country. NESB students are concentrated in city schools, only 3% of students attending schools in the Riverina Region being NESB. This compares with 17.9% of students attending New South Wales Government Schools. By far the largest proportion of NESB students in NSW live in the Metropolitan area of Sydney (43.8%, Metropolitan East; 37% Metropolitan South West; 19.9% Metropolitan West; and 13.2% Metropolitan North).

The statistics for the Local Government Area of Wagga Wagga revealed that 41 Primary and 19 Secondary NESB students (defined as those in whose homes a language other than English was spoken) attended Wagga Wagga government schools in 1989. No one ethnic group predominated. The NESB residents and students in Wagga Wagga came from a wide range of backgrounds.

Needs of NESB students

NESB students, especially those coming from the more recently arrived immigrant groups, are disadvantaged socially, educationally and economically. Foster (1985) has argued that the structure of Australian education helps reproduce the inequalities inherent in any capitalist system.

Rural areas such as the Riverina are in particular need of further assistance. Specialised support and advice are difficult to come by in view of their relative isolation and distance from the major cities. The influx of immigrants is a more recent and relatively less common phenomenon. For these reasons, it is imperative to find ways of counteracting the compounded effects of a NESB and rural isolation.

In spite of their small numbers, NESB students attending Wagga Wagga schools have the same needs as students elsewhere in Australia. The 'White Paper' (DEET, 1991) has outlined four major goals for language and literacy education: proficiency in all aspects of the English language, learning a language other than English; maintaining cultural and linguistic heritage and access to language services, such as interpreting and translating, print and electronic media and libraries. I will briefly comment on these goals below.

The acquisition of English language and literacy is of the utmost importance for NESB students to enable them to participate equitably in Australian life. It is an essential skill for acquiring and using other skills. Language competence at a social communication level is not enough to enable NESB students to cope in Australian schools. It is virtually impossible for them to learn sufficient English in a short time to operate in mainstream classes particularly in high school and particularly if they arrive during adolescence (Cahill and Ewen, 1987). Even though many ESL learners seem to speak English and function reasonably effectively within an English speaking

environment, they may lack comprehension; they may in consequence fail to develop concepts and may have problems with writing in a second language (Hartley, 1988; Isaacs, 1981). In fact, near native fluency is needed for many high school subjects to be able to write essays. As Clyne (1985) has pointed out, essay writing requirements in Australian schools are rooted in British cultural patterns and have tended to discriminate against NESB students.

The importance of cultural and language maintenance for NESB groups has now been widely recognized (DEET, 1991). There are three grounds for supporting this maintenance. First, it is important to minimise the discontinuities experienced by NESB students; discontinuities between schooling in the country of origin and their new country, discontintuities between home and school. Second, cultural and language maintenance enhance self-esteem and promote the continuation of concept development. Third, ethnic languages are a nationally important resource. Official government policy as expressed in the 'White Paper' has recognized the importance of Languages other than English (LOTE) for the country as a whole.

NESB students need to know that they are accepted by their peers and by their teachers. Unfortunately many have suffered from the prejudice of some Australians (students and teachers) for having a different name, religion, cultural background or colour. According to Isaacs (1981), it may be subtle but it is constant. It may involve name calling or comments on appearance and even physical violence. Undoubtedly, a number of NESB students have suffered these various forms of discrimination with deleterious effects on their intellectual and emotional development.

Apart from outright discrimination, general indifference of many members of the majority group to ethnic communities, language and culture, apart from a mild interest in their food, folk singing and dancing (Geracitano, 1977) may be disturbing. Marginalization may lower the self-esteem of NESB students and therefore their educational achievement. Tokenism may sometimes be more painful than neglect.

Government response

Martin (1978) distinguished three shifts in focus which underpinned government response to what she called "the migrant presence" since World

War 2: assimilation, integration or interactionism and multiculturalism. Initially, immigrants were expected to fit into the host society and abandon their own language and culture. From the 1960's a degree of European immigrant culture was allowed to survive; however, Anglo-Australians remained largely unaffected. As Foster (1985:191) has pointed out, the period of integration was marked by 'a deceptively democratic view of ethnic diversity' suggesting 'live and let live' but which in practice called upon ethnic minorities to do most of the 'giving'.

In 1971 the Child Migrant Education Program was introduced (Blakeney, 1977; Martin, 1978; Foster, 1985). The emphasis was on teaching English to NESB students with what were then often perceived as 'learning problems'. Students were withdrawn from normal classes to receive regular instruction in English in groups of five to ten, one to two periods a day. By the late 1970s, immigrant groups were allowed to continue their own communal life and to preserve their own culture and language. As the high rate of immigrant inflow continued and ethnic groups became more vocal (Foster, 1985) politicians were beginning to see the potential of their votes. This necessitated a stronger response to their needs.

In 1987 the National Policy on Languages (NPL) was adopted. The government's commitment to the four principles of NPL: English for all; support for aboriginal and Torres Strait Island languages; a language other than English for all and equitable and widespread language services - was reaffirmed most recently, DEET's 'White Paper' in 1991. However, support for multiculturalism has waned in the last few years, most likely as a result of Australia's worsening economic situation.

Funding for NESB students presently exists under two categories: the 'New Arrivals' programme and the 'General Support' programme. These programmes provide for intensive language centres, interpreting and translation services, support teachers, the development of curriculum support materials and in-service training.

Whilst the acquisition of the English language will remain the highest priority along with orientation to acquaint immigrants regarding Australian political institutions, economic life and social conventions, official government policy as represented in the DEET 'White Paper' (1991) has recognized that NESB students also need to have the option to maintain their language and culture. In this document, LOTE's are also considered important for members of the

majority group. For example, in New South Wales, $904,000 was provided for the establishment of courses in Japanese, Chinese (Mandarin), Spanish, Arabic and Vietnamese in selected high schools in 1987-88; and in following year $1,527,000 was granted for the continuance of these programs and for the extension of the program to nominated primary schools and additional languages - German, Greek and Italian.

However, even in the areas where the highest concentration of newly arrived immigrants is found, multicultural education has often been implemented in an uneven manner. The major emphasis has remained with the teaching of English. Instruction in the first language (L1) and bilingual education have generally been introduced as a transitional measure. English generally becomes the sole language of instruction after the student is deemed to be proficient. Schools have not always taken advantage of the funding that does exist for multicultural education. In spite of the fact that research has demonstrated unequivocally that positive transfer from the L1 assists L2 learners (e.g. Cummins, 1984), the dominant view remains that time spent on the first language is time taken away from the acquisition of the second language.

Needs of NESB students in Wagga Wagga

Carman's (1990) study of NESB immigrants in Wagga Wagga has documented similar concerns to those just outlined. Immigrants in the Wagga Wagga district, as indicated previously, were characterized by small numbers, different origins and varying stages of settlement. In terms of the three needs specified as essential: English proficiency, language and cultural maintenance and acceptance, these were even further from being satisfied than is the case in the larger cities.

Concerns expressed in interviews with Carman included anxiety about children's progress, the fact that parents were unable to help their children with their schoolwork and children's inability to understand work not only through lack of English proficiency, but lack of background knowledge.

Carman found that language and cultural maintenance were not being encouraged at the local schools. Students were experiencing conflicts in relation to cultural identity. They were also the recipients of discrimination

and felt a lack of acceptance by English-speaking background (ESB) students.

The Study

The study carried out during 1990/1991 confirms Carman's findings. The motivation for the study arose out of visits to local primary schools by lecturing staff at Charles Sturt University Riverina School of Education in the course of practicum supervision. We observed staff attempting to cope with the demands of classrooms which included newly arrived NESB students. Teachers felt concerned that they lacked the training and the resources to assist these students to realize their potential as learners.

The aims of the study were threefold: to find out how many NESB students were in schools in Wagga Wagga; to discover what arrangements were in place in the schools to cater for these students and to find out the opinions of staff responsible about present arrangements. This study is seen very much as a preliminary survey; work is proceeding in a follow-up study involving one local primary school which has a number of NESB students.

Data-gathering procedures were as follows: questionnaires, Department of School Education statistics and telephone interviews with cluster directors. 50 local schools were sent questionnaires. There was a poor response rate (26%), suggesting low priority attributed to the issue of NESB students.

The following findings were noted.

(1) The incidence of NESB students

As was stated earlier, the local government area of Wagga Wagga, the Department of School Education statistics identified 60 pupils who were NESB. 10 nationalities were cited, not counting a miscellaneous category. The highest number of students, 7, spoke Tagalog, 6 spoke Arabic, followed in descending order by Croatian and Polish, Chinese, Indonesian and Turkish, Dutch, Vietnamese and Korean. In addition to the students listed by Department of School Education, 9 New Arrivals were reported by the local Catholic Education Office. However the nationality of these students was not recorded.

There was some discrepancy between Department of School Education statistics and the returns from the schools in relation to the number of NESB students present. This may have been due to the fact that there were conflicting definitions of 'NESB'. It seemed that the presence of NESB students tended to be acknowledged on questionnaires only if they were 'a problem'. One of the questionnaires reported a nil return with the comment 'no problem'! The current model seemed predominantly to be one of 'deficit' rather than 'difference'. Students who did not speak English were sometimes referred to as 'language deprived' rather than 'unable to speak English'.

(2) Programmes

After intensive English in their first twelve months, the NESB student receives no further assistance. There were, at the time of the study, no English as a Second Language (ESL) teachers to help NESB students, to teach in teams with other teachers or to help other teachers to handle the English language development of NESB students in other areas of the curriculum (One ESL teacher is now being employed on a part-time basis).

Individual schools made their own arrangements. At one of the public schools in Wagga - School #3, for example, it was arranged for the classroom teacher to work with the ESL student and for a casual teacher to be employed to replace the class teacher:

> A major problem with the present allocation is that we have a grant for half day per week for ESL work. Under this allocation the ESL child would have an isolated half day per week. We felt this was unsatisfactory and the class teacher takes the ESL child at times during the week when she has release times or before 9.30 (school start) e.g. half an hour to three quarters of an hour per day is provided for ESL withdrawal for the child (by the class teacher). In addition to this when the casual teacher takes the class the ESL child is worked with in the classroom with the class teacher assisting.

Where arrival is sporadic, or where there are a number of non-permanent residents, programs are likely to be discontinued at short notice. Consequently, a variety of other staff members become involved on either an official or an unofficial basis, often spending a considerable part of their spare time in helping the new arrivals. For example, at Catholic Boys High

School assistance is provided by any interested teachers, the Curriculum Deputy, or the reading teacher.

In the absence of any training, teachers resorted to a variety of strategies borrowed from other contexts, such as infant teaching and reading recovery methods. They also used resource materials such as the 'Smile Kit' and course books such as 'Learning in Australia' and 'Transit'. Rather than a coherent proramme, a variety of ad hoc measures were in place.

Many teachers expressed their concern about the situation, focusing in particular on the lack of funding, the need for trained staff and the need for assistance to children of non-permanent residents. Those classroom teachers who had NESB students in their care generally felt themselves to be ill-equipped. Moreover, they did not feel that they had access to special assistance and advice; and they said that they lacked the time to give the NESB students the one to one assistance these students require.

The predominant perception among the respondents was that priority must be given to English. There is no bilingual instruction or L1 maintenance program in the area. Thus cultural and language maintenance were given low priority by staff. Respondents did, however, express concern about the lack of communication between school and home, and the fact that there were no translation and interpreting services available. It was also seen as important by some that mainstream students be educated about the culture of their fellow NESB students.

Recommendations

Recommendations made in the report echo the teachers' perceptions and concerns. These include the need for further research, the need for specialist and support staff, the need for inservice training and the need for educating mainstream students. Urgent consideration needs to be given to assistance for children of non-permanent residents.

As preliminary survey work has been completed, the most appropriate research for the future was considered to involve ethnographic methods, including interviews not only with teaching staff but parents and students. Suggested issues to be investigated included what kinds of staff, resources, in-service training and awareness-raising programmes would be most

appropriate for the region's schools. Suggestions for specialist staff included counsellors, consultants, bilingual assistance and the setting up of a resource centre.

Conclusion

Above all, the experience of carrying out the survey has alerted us to the need for raising teachers' and administrators' awareness of issues relating to NESB students. While classroom teachers try to meet these students' needs within the severe restraints of numbers and time, the nature of the arrangements made for them are mostly ad hoc. Clearly more trained personnel are needed, more resources, more backup, as well as in-service Perhaps teachers trained in other fields could be supported with government funding to diversify and complete a post-graduate diploma in ESL teaching, as there are so few trained local personnel, even if funding is available.

Local teachers in training who are interested in pursuing a career in ESL teaching are lost to the area because they both have to train and find work elsewhere. A locally based course training teachers to specialise in ESL would seem to be a matter of urgency.

The latest figures available, 1991, show that there has been a small but significant increase in the number of NESB students in the Wagga Wagga schools. We might expect this trend to continue for 1992, judging by our informal contacts. As previously mentioned, there is now one trained ESL teacher shared by two schools. However, there is no locally-based consultant or resource. The ESL consultant who is responsible for the Riverina is based in Sydney!

Wagga Wagga is no longer homogeneous in terms of ethnic background. We need to become aware of the diversity which is actually in the area and take steps to deal with the needs of students in the schools if they are not to be disadvantaged in later life.

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3

Technology

Technologies - Present and Future for Distance Education in Victoria

Learning Technology Programs in An Isolated Region - Classroom Applications of Technology

Technology and the Provision of Specialist Educational Support Services to Young Children of Itinerant Families

TECHNOLOGIES - PRESENT AND FUTURE FOR DISTANCE EDUCATION IN VICTORIA

Neil Elliott and Ian Conboy
Ministry of Education, Bendigo
Victoria

Introduction

In late 1986, the Victorian Government negotiated a resource agreement with the Commonwealth Government to use electronic means of curriculum dissemination to try and improve retention rates in small rural secondary schools (the Commonwealth and Victorian Government's Resource Agreement 3 (RA3) to use technology to improve participation rates of years 11 and 12 students commonly called RA3). The agreement operated for two years and allocated $3.518m to a number of exciting innovations. The project has generated considerable interest both within Victoria and elsewhere. It built on knowledge gained from previous trials sponsored by the Country Education Project (CEP), the Victorian component of the Commonwealth Government's Areas Program (Conboy, 1982, 1983, 1986). The Agreement officially ran for the calendar years 1987-88 but the innovations sponsored by RA3 have since been continued by the Victorian Government. The initiative has been evaluated by an independent evaluator and it is timely to report on some of its achievements and some of the issues it has highlighted from an insider's point of view (The D'Cruz Report, 1990).

Resource Agreement 3, 1987-88

Resource Agreement 3 was based on a number of operating principles, some stated explicitly in documentation related to the project (Ministry of Education, Victoria, Memorandum No. 11) and some inferred or implied at State Advisory Committee meetings or formulated and expressed on long drives to the more remote parts of Victoria.

Perhaps the strongest commitment of the project was to the CEP principles of local decision making and community involvement in education. The CEP encourages local country people to identify their own needs and

develop solutions to their problems. The idea of people development was taken up by the State Advisory Committee of RA3 and built into every level of planning. While education agencies are frequently referred to as bureaucracies, in practice, teachers have a large degree of autonomy within their own classrooms. Seldom if ever are they under the scrutiny of their peers. Any changes to educational procedures must gain the support of classroom teachers. Where teachers have not been fully conversant with the objectives of an innovation as in the case of one self-paced computer assisted learning innovation in the US, they slowed more gifted students and provided the less able with additional instruction to bring their performance closer to the norm (Doyle and Ponder, 1987-88). From the beginning of the RA3 innovation, teachers were consulted about selection of technology (courseware, software and hardware for the project); they were encouraged to write about their innovations, give papers at conferences, contribute to professional development activities, and participation in RA3 projects in schools was voluntary. Inevitably, as the project progressed it became more difficult to maintain this contact and there was some standardisation of equipment used to provide savings. However, the spirit of the approach was maintained as far as possible.

There was also a healthy scepticism about technology among several members of the State Advisory Committee. This expressed itself in a strong commitment to curriculum and educational objectives. This project was not to be an example of technology looking for an educational application, but a project with very clear educational objectives going through the rather painstaking process of experimenting with a range of technology to achieve those objectives (Elliott, 1989). Initially, teachers identified three main links which they required to teach at a distance: voice; document; and, a substitute for a blackboard.

Learning With Technology

The Audio Link

Victoria took advantage of some pioneering developmental work originally undertaken by the Educational Technology Centre in the South Australian Department of Education and decided to use the DUCT (Diverse Use of Communication Technology) audio terminal. This was a significant development for distance educators because it allowed a group of students

to talk to another group of students in a neighbouring town and work in a hands free mode. The DUCT terminal was relatively easy to set up in a classroom and fairly portable. When used in conjunction with a teleconference bridge, several groups of students could be linked together for a teleconference.

The original decision to use the DUCT as the main audio link has generally proved successful. Ease of use, clarity and volume of voice are its main advantages over competitors. The DUCT is still realistically priced and only uses one Telecom line. Suppliers of the unit, Hanimex, are confident that the new manufacturer (British Aerospace) will be most reliable in quality, supply and service.

A unit produced in Brisbane called 'Hybrid' has been extensively tested. A special model has been built to the requirements of the Victorian Ministry of Education and is most reliable. The Hybrid does produce marginally better sound quality and being built on demand gives the flexibility to add special features, for example, connection of music laboratories.

The Document Link

Along with the DUCT, this link (facsimile machines) has proved the most popular with the schools. Regardless of the brand of equipment, each unit is very easy to use and a very useful powerful tool to have in any organisation. There have been many technical improvements made to facsimile machines in recent years.

Consideration of country dealer support is an important issue when purchasing facsimile for remote schools.

An issue that will need addressing, particularly with facsimile machines, is repair/ replacement. Facsimile units are not unlike computer printers and from time to time will need heads or motors replaced. Victoria's base requirement for facsimile in this project is that it has an in-built dialer and uses one hundred metre rolls of paper. The last fact gives an indication of its durability and robustness.

The Visual Link

In order to provide an acceptable visual link between schools, most available technology has been investigated thoroughly. Rapid technical developments are also occurring in the field.

Electronic Whiteboards

In February 1987 Electronic Whiteboards which produced an image on a Colour TV monitor, at the remote location, were investigated and considered unsuitable.

The Macintosh Link

At present, some eighty sites are using the Mac system with Electronic classroom software and Netcom 2400/2400 modems. Macwrite, Macpaint, Superpaint, Microsoft Works and a number of other programs have been tested using this software with success. Using Electronic classroom, machines at two location perform exactly the same computations, when operating a work processor or adding to a Paint document. This provides a powerful interactive teaching tool using any number of computer programs. The process of establishing contact with the other party via a modem is quite easy and reliable.

In Victoria, the three devices combined into an audiographic system has come to be referred to as Mac, Fax, DUCT and their application for transferring information between schools is described as telematics.

Learning About Technology

As well as communication links, most clusters have identified a need for more curriculum materials in areas such as technology and technical studies, health sciences, community languages and music. In order to provide this additional curriculum cost effectively, they have borrowed the TEKPAK idea from South Australia (TEKPAKS, Wattle Park Teachers' Centre). Technology packages (TEKPAKS) consist of mobile resources of working models, teachers guides, students materials, and sometimes tool kits which circulate between schools in the cluster on a pre-planned schedule. They provide students with valuable practical experience in a

range of technology and save individual schools and the Ministry, the cost of fully equipped workshops for small numbers of students. Three clusters, the Mallee Secondary College Complex, the Northeastern and the West Wimmera, as well as the Charlton North Central Technical Centre have developed technology packages in a range of units. In 1987, the Mallee Cluster has ten new courses provided by technological packages and these have since been extended (Mallee Secondary Colleges Cluster, 1987).

The success of tekpaks in small rural schools has lead to the Ministry appointing a Tekpak Development Officer to co-ordinate Tekpak development and plan for their eventual commercial production. Currently a feasibility study of their commercial development is being undertaken by consultants.

The packages have been successful for several reasons. Their mobility makes them a very cost effective way of delivery technology studies to rural schools which do not have fully equipped technical workshops and because of this, the majority of Tekpaks developed have been in this curriculum area. They have been designed to meet as closely as possible, the requirements of the Victorian Certificate of Education Technology Studies Course. Unlike previous technical and technology courses in both technical and high schools, this course places a far greater emphasis on design and processes, systems theory as well as materials. Because of this, Tekpaks appear to integrate theory and practical outcomes far more closely than previous approaches. One further advantage is their appeal to all students. In addition, some such as the robotics and electronics Tekpaks are applicable to several other curriculum areas such as science and mathematics. Tekpaks are not seen in isolation from telematics delivery but fit a pattern where technology teachers using Tekpaks within a cluster can meet regularly using telematics to modify curriculum.

Future Developments

Satellite Delivery

During the latter part of 1988, the East Gippsland cluster of post-primary schools engaged in a series of distance education trials involving satellite technology. The cluster is ideal for satellite delivery because of the relatively large distance between towns and the mountainous terrain which

makes some terrestrial communication links such as beamed microwave expensive to install.

The satellite trials were conducted with VISTEL - Victorian Governments communications authority. VISTEL provided interactive earth stations as well as considerable expertise to run the trial. The trials were based on a relatively sophisticated television studio located at Bairnsdale High School. Television programs produced in the Bairnsdale studio were compressed and transmitted to Melbourne on VISTEL's 2 mgb capacity link leased from Telecom and then relayed to AUSSAT's uplink satellite in Burwood. The six schools in the East Gippsland cluster were able to receive the visual image from the studio and use existing audiographic links to communicate with presenters.

A variety of trials were undertaken. These included lessons in biology and Australian Studies and meetings with senior Minisry of Education officials. Another spin-off of the trial was community use of the Bairnsdale studio for video conferencing. The potential for educational delivery lies not only in formal lesson delivery but also in professional development and delivery of special services (Balfour, 1989).

Teachers and students adapted surprisingly well to the studio situation at Bairnsdale. However, those in the outlying schools indicated that video was not always necessary for the learning process and where there was a need for visuals, voice with facsimile was acceptable. However, the trial did indicate that it was possible to produce educational television of an acceptable quality without the expense normally associated with commercial television. Trials were also held in the transfer of computer text and graphics. While it was possible to gain high quality images on the screen, there was a considerable delay factor which interfered with the learning process.

One of the fastest growing uses of satellite delivery is so called business television in Canada and the US. Companies use satellite distribution for training their staff and holding regular administrative meetings. Kevin Sullivan, Senior Vice President of Human Resources, Apple Computer in his Keynote Address to the TeleCon Conference held in San Jose last year indicated that the decision to bring conferencing technology to Apple was

based on a desire to improve communications meeting. Satellite links are used for training and product introductions (Sullivan, 1989).

The strongest future for satellite in education probably lies in the professional development field as well. The Loddon, Campaspe-Mallee Region in Victoria is currently investigating the feasibility of using satellite to deliver professional development to schools with significant numbers of students at risk.

Conclusion

The RA3 project and the subsequent initiatives in using technology in Victorian rural schools provides an example of multimedia approaches to overcoming the educational disadvantage caused by isolation. They are neither wholly distance education projects nor technology projects. Whereas distance education projects in general concentrate on bringing education to a distinct group of students who otherwise would not have access to education through conventional delivery systems, Victorian teachers involved with technology both teach in the conventional classroom mode and in distance mode using telematics. Their students spend some of their time learning in conventional classrooms and some of their time in distance mode from telematics and perhaps from the Correspondence School. The selection of technology used in schools has been of secondary importance to the essential educational question of providing rural children with access to a comprehensive curriculum. Because of this complexity, the Victorian initiative has provided a wealth of information about the use of technology.

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LEARNING TECHNOLOGY PROGRAMS IN AN ISOLATED REGION - CLASSROOM APPLICATIONS OF TECHNOLOGY

Carol Hughes
South Western Region, Queensland

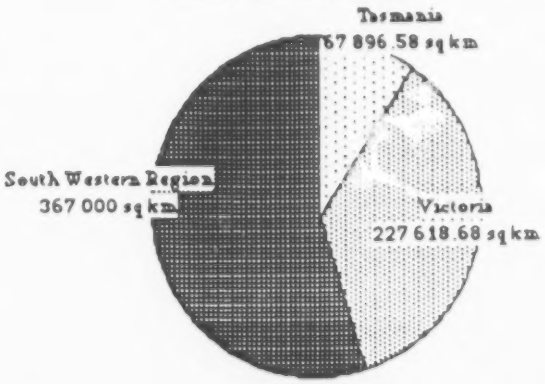
Background Information on the South Western Region

The South-Western Education Region comprises the local authority areas of Balonne, Bendemere, Booringa, Bulloo, Bungil, Chinchilla, Murilla, Murweh, Paroo, Quilpie, Roma, Tara, Taroom and Warroo.

The South Western Region extends approximately eleven hundred kilometres from east to west and five hundred kilometres from north to south. The area may be regarded as a broad transition zone between the fertile farming lands of the Darling Downs, through the mulga scrub and open grasslands, to the desert margins of Central Australia.

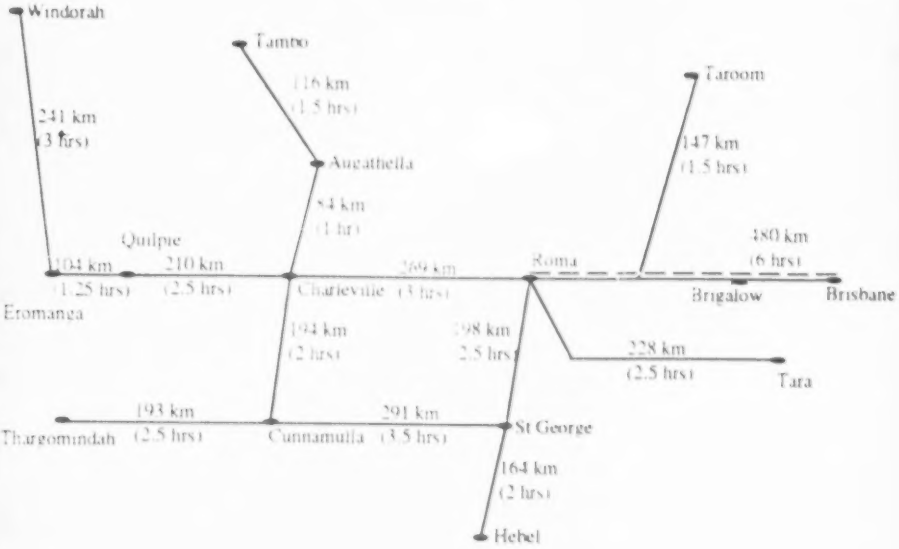
The South Western Region covers an area of approximately 413 100 square kilometres. It is 1.8 times the size of Victoria and six times the size of Tasmania.

Comparison of Areas



In all parts of the Region, but most particularly in the western half, isolation and distance to schools and between schools, are a major difficulty for administrators, teachers, parents and students alike.

Distance in South Western Region



Educational facilities in the South Western Region comprise four state high schools, a senior college, a middle school (years 4 to 10), a junior school (preschool to year 3), a school of distance education, a special school, an environmental education centre, ten secondary departments attached to primary schools, as well as fifty-five primary schools. Of these twenty-seven are one teacher schools. Special education units are attached to the primary schools at Charleville, Chinchilla and Cunnamulla. There are

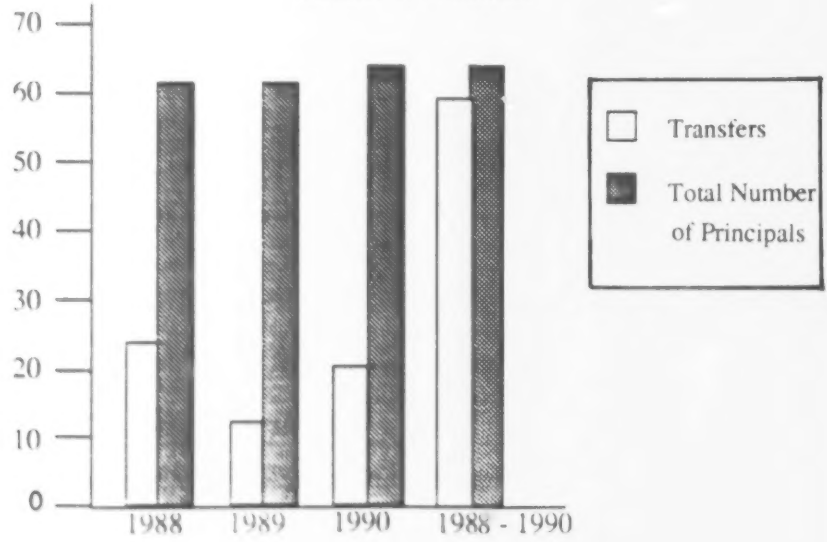
eleven state preschool centres and thirteen primary schools have preschools as part of their early education classes.

More than seven thousand children are provided with an education by five hundred and seventy four teachers and specialist support personnel.

A number of Commonwealth funded programs are managed within the region. These are the Priority Country Area Program (PCAP), Special Program Schools Scheme (SPSS), the Specific Enhancement to Resources and Services scheme (SERS), the Australian Second Language Learning Project (ASLLP) and the Students at Risk (STAR) program.

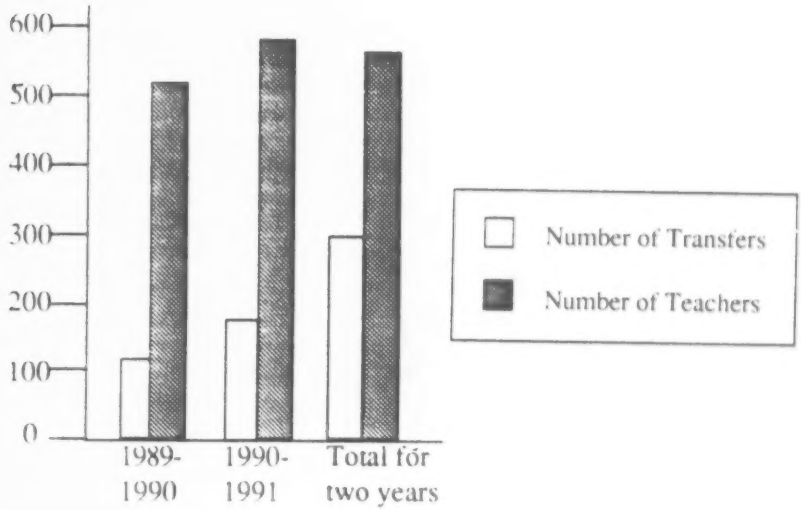
In summary, the South Western region is characterised by isolation, high teacher turnover, principal and teacher inexperience, student mobility, pockets of social and economic deprivation, and a significant proportion of students of aboriginal origin.

Transfer of Principals



There is a high turnover of Principals in this region each year.

Transfers in South Western Region



There is also a high turnover of teachers in the region each year.

Introduction

In the South Western Educational Region the area of technology over the past two and a half years has been dominated by the Queensland Department of Education Learning Systems Project.

The Learning Systems Project in the South Western Region encompasses:

* the establishment of Business Education Centres in secondary schools and secondary departments;

* the implementation of Electronic Learning Centres in primary and secondary schools;

* the introduction of the subject Practical Computer Methods into Year 11 and 12;

* the installation and establishment of Telelearning sites for remote areas; and

* extensive professional development for classroom teachers and school communities.

The South Western Region adopted these projects and a plan for implementation over a three year period was devised by the regional consultants, one full-time person based in Roma and one part-time person based in Charleville. These consultants cover vast distances each week working in secondary schools through to preschools, classrooms to property homes.

Quality communication is essential in our region where isolation is caused by distance and lack of facilities. For this reason, a regional initiative of providing equipment and training for the use of electronic communication via Keylink was approved, and a program put in place in 1987. In 1990 this program has been extended to the supply of facsimile machines to all class four and five schools (one to four teacher schools) in the region. Due to the location of these schools and irregular, infrequent mail services, this type of technological equipment attempts to overcome some of the frustration caused by the isolation and distance factors. This high profile program must be continually maintained due to the high turnover of staff in our small schools.

In addition to these projects, an integrated program for the repair and maintenance of all computer hardware and accessories has been continually serviced and maintained. The South Western Region is the only educational region in Queensland which can boast that every school in the region has their own computers, modem and printers for daily use by students. With this large volume of equipment, this maintenance and repair program is very necessary. We are very lucky that the South Western Priority Country Area Program assists our isolated schools in this matter.

Finally, the provision and installation of computers and electronic communication facilities for use by children on properties studying through

the School of Distance Education is an important facet of technology in our region. Both the Queensland Department of Education and the Priority Country Area Program have contributed to this initiative which has proven to be a success.

Learning Systems Project

The Learning Systems Project is a $20 million, three year project initiated by the Queensland Government to enhance the use of technology in education. Rather than distribute computer equipment widely across as many schools as possible, the strategy adopted in the Learning Systems Project is to concentrate critical masses of equipment and skills to ensure effective change in the outcomes of learning.

The Learning Systems Project was planned to build expertise, layer by layer, throughout the state. Equipment has been deployed where it can best sow the seeds of future development in learning technologies. Early work in computer education is now providing the basis for the continuing implementation of this important project.

Business Education Centres

Technological change over the last decade has transformed the office environment. Businesses have introduced multi-function computers, new telecommunication networks and copying devices to facilitate operation and management of modern offices. As a result, business practices have changed from manual or mechanical operations to the use of sophisticated computer and telecommunication systems and their associated software applications. These application areas include:

* word processing;
* desktop publishing;
* spreadsheets;
* accounting packages;
* electronic filing;
* databases;
* graphics;
* electronic time management;
* electronic mail;
* teleconferencing;
* videotext; and
* reprographics.

Businesses need personnel who are knowledgeable in commercial practices, skilled in the use of information and telecommunications technology, can demonstrate initiative and can work effectively without direct supervision in this new environment. As a result, the classroom experiences of students studying business courses need to correspond more with the kind of physical and operational environments which they are likely to encounter when they graduate from school.

The purpose of the Business Education Centre project is to establish learning centres in the commerce areas of secondary schools and departments where students will be offered relevant curriculum using a range of modern business technologies.

The central focus is the curriculum rather than the technology. Instead of developing subjects or units that focus on the technology itself, the use of technology is to be integrated across the curriculum or units that focus on the technology itself, the use of technology is to be integrated across the commerce curriculum. This process may lead to a change in the curriculum in some subjects. It may also lead to a more collaborative approach to learning on the part of both teachers and students. It is expected that students will become more responsible for their own learning, thus developing the necessary abilities and attitudes for effective operation with a modern business environment.

Business Education Centres in the South Western Region have been established in such a way that the physical environment, classroom practices and learning experiences for students mirror, as closely as possible, what is happening in business. They physical environment is arranged to resemble the kinds of co-operative work groups used in most businesses. Naturally, the constraints of accommodating classes, suitable furniture and furnishings, power, security, communication facilities and of course last but most constraining, available funding, were major considerations in the planning processes.

Within a classroom arranged around work groups, students have the opportunity to learn as a whole, in smaller groups, in pairs or as individuals. At any one time students can be involved in a range of computer applications, that is, they do not have to be working on the same activity at the same time.

As you can imagine, the funding required to establish a centre of this nature is great, however, schools were allocated funding using a formula based on the number of students enrolled in commercial classes, the number of commercial teachers and the number of minutes of commercial tuition. Hence, schools in the South Western Region did not receive adequate funding to establish such centres. Vast amounts of fund raising activities were held, contributions from the school administration and of course, sponsorship from the local communities. Without the school communities which support these small schools, Business Education Centres in the South West would not have survived.

Teachers and students alike found themselves practising the entrepreneurial skills required for small business. The need to sell their skills and abilities was necessary and plans were devised for the marketing of these skills in such a way as to be attractive to local business houses. Soon local businesses were sporting business cards, professionally printed menus in the cafe, desktop published breakfast menus in the motel or guest house, advertisements for the local newspapers, wedding and party invitations for community members and evening classes for the computer illiterate. Funds generated from these business ventures were recycled back into the Business Education Centre for the purchase of further equipment and consumable stock.

Electronic Learning Centres

For a period of seven years before the implementation of the Learning Systems Project, the Queensland Department of Education made a considerable investment in computer technologies for schools. Most schools made an effort to expose students to this technology and this was mainly by way of computer literacy courses. Less work was done on the use of computer technology as a curriculum tool.

Over the past two and a half years with the implementation of Electronic Learning Centres, teachers have been encouraged to make greater use of computers and related technology within the curriculum.

A prominent expectation of the community and Government is that schools equip students with skills in the use of information technologies for both learning and employment. The focus of this project has been to embed the

use of information technology in common classroom practice. The project aim was to develop a critical mass of teachers who use technology in appropriate ways across the curriculum. This in turn has required significant changes to approaches to curriculum implementation and teaching styles.

Electronic Learning Centres have been established in the South Western Region with the purpose of equipping students with adequate technological skills to function effectively in an information society. Curriculum development, supported by appropriate technological hardware, software and peripherals, have been major project focuses. Schools have given a commitment to the development of curriculum materials and student programs, and these are distributed through the Regional Learning Systems Consultants.

Students have and are in the process of coming to terms with technology as a matter of course within the context of their schooling. The role of the teacher has had to change to that of facilitator instead of director, and learning and teaching styles have been adapted to suit the new environment which has been created in the classroom.

In the South Western Region the majority of the Electronic Learning Centres that have been established focus predominantly on curriculum integration in the primary school with sub-themes of language and theme development. One centre is located in the Manual Arts Department of a Secondary Department at Wallumbilla where students utilize the computer hardware in conjunction with drawing programs and plotters for the subject Graphics (Technical Drawing). Another centre specializes in the field of music, where piano keyboards are connected to Ataria computers for the composition of music and printed scores.

One of the most unique Electronic Learning Centres in Queensland affectionately known as 'Technology through the Heat and the Dust' is located on properties in the South Western Region. This centre services children on properties who are enrolled in the School of Distance Education, Charleville Centre. These computers and associated software and learning materials are rotated on an annual basis to allow other students access to this equipment and instructional program. The Commonwealth funded South Western Priority Country Area Program have undertaken an initiative to extend this centre with more hardware and software in an attempt to give

a greater number of families the same opportunities that would be afforded to their students if they attended school on a daily basis.

Practical Computer Methods

Practical Computer Methods is a subject offered by secondary schools throughout Queensland to Year 11 and 12 students. It was introduced to enhance the range and relevance of senior secondary curriculum offerings to the increasing number of students enroling in Year 11 - 12 studies.

The Practical Computer Methods syllabus was probably the best example of a course which would fulfil the Government's Strategic Development Plan for Queenslanders to become technologically advanced and more innovative and entrepreneurial. This course has no equal in other states.

While all secondary schools and departments were issued with the basic computer equipment under the Computer Literacy Project, additional hardware needs to be provided to cater for graphics, communications, and software for programming, information processing and artificial intelligence.

This specialised subject was initially introduced only to those schools with existing acceptable levels of hardware, software, teacher expertise and teaching resources. Through the Learning Systems Project schools were allocated additional equipment to cater for the increasing demand for such a computer course. Professional development and support for teachers became essential and the development of curriculum support materials was provided to teachers of the subject by Curriculum Services Branch of the Queensland Department of Education.

All secondary schools in the South Western region and secondary departments with extended campuses to Year 12 have introduced this new subject into their curriculum within the last two and a half years. It has become very popular and classes have doubled within this short time period.

Telelearning Project

Students living in isolated rural areas face special problems compounded by the trends larger agricultural holdings and more capital intensive rural industry which have further diminished already small scattered populations. Even in areas where small schools exist, student numbers impose limits on the range of subjects that can be taught. At the same time, there is widespread community expectation that curriculum options should be expanded to encourage students to stay longer at school. Emerging telecommunications strategies have been used successfully in the South Western Region to help bridge this gap in rural communities.

An analysis of a variety of telecommunications activities in support of remote learners points the way to means of more efficiently and productively using resources within clusters of schools.

Moreover, the benefits of this approach are not restricted to students in remote areas. Learners in more populated communities can also use telecommunications to meet specific educational needs. In such communities, telecommunications can improve the cost efficiency of providing specialised subjects with limited appeal.

Preliminary investigations reveal a potential cost efficiency in delivering the curriculum using telecommunications. A network of schools can utilise highly qualified teachers across a broader spectrum of subjects than is currently possible. Subjects which were formerly unavailable to small groups of students scattered across a region can now be readily offered via telecommunications techniques.

In the South Western Region a trial was initiated in 1990 between Charleville State High School and Miles State High School, 450 kilometres apart. Students in Year nine at Miles undertook Japanese lessons rom a highly qualified teacher in Charleville, while Year eleven students at Charleville received Agricultural Science tuition from a specialist teacher based in Miles. This project has been operating very successfully for the past eighteen months.

This year another centre has been established operating between Roma and Surat (one way only), with further plans for lessons to also be

transmitted to Mitchell in 1992. The teaching of the French language is the focus of this centre.

These projects address issues of efficiency and productivity at the regional level by delivering curriculum materials to students via a telecommunication system. While efficiency and productivity are the long term objectives, the educational efficacy of such an approach has been a parallel consideration. Similar projects overseas have adequately demonstrated the educational effectiveness of the process.

Communication Facilities

There are four main forms of communication facilities available to all of us as educators. These are:

- surface mail;
- telephone;
- Keylink; and
- facsimile machine.

As educators it is important we are aware of the modus operandi and consequent benefits, both practical and cost effective, of the four mediums and the place each has to play within our daily routine. We need to recognise the most appropriate medium to use for a particular task.

Principals and teachers need to be able to make educated, informed decisions concerning the use of communication facilities, especially in relation to costs which are exacerbated further in these days where one must pursue a policy of frugal fiscal management. In educational regions, such as the South Western, where long distance communications are generally activated on a daily basis, STD charges cannot be avoided, but for obvious reasons need to be minimized wherever possible.

As quality communication is essential in our regional initiative of providing equipment and training for the use of electronic mail communication via Keylink was established in 1987. This initiative was funded jointly by the South Western Regional Office and the South Western Priority Country Area Program. All schools in the South Western Region possess this facility. Keylink is the form of electronic mail which was adopted by the

Queensland Department of Education late in 1986. Equipment required to use this facility includes a modem, cable and communications software which is utilised in conjunction with your existing computer and printer. A process using mailboxes accessed from a central clearing house in Melbourne has been established to facilitate the sending and delivery of messages. A flat rate charge per minute is effective for this service. This facility is widely used by students for curriculum activities within their regular classroom activities.

As technology has advanced and the cost of technological equipment decreases, the South Western Regional Office extended the communication project with the supply of facsimile machines to class four and five schools (one to four teacher schools). Due to location of these schools and their infrequent mail service, the facsimile machine is an additional asset to the organisation of the school. Charges for this facility utilise the STD rates as set by Telecom.

These projects have aided the quality of communication between students and staff not only within the South Western Region but also outside the region, interstate and overseas.

Computer Maintenance and Repair

Due to the large volume of computer hardware and peripherals in use in the schools in the South Western Region, it has been necessary to develop and implement a plan for the repair and maintenance of this equipment. A number of factors had to be taken into consideration when planning for this project and how it would operate. These included:

* vast distances to commercial computer repairers (freight charges);
* unsurfaced roads in poor condition;
* time equipment would be out of the school;
* dusty, hot climate (need for frequent services);
* expensive labour charges by commercial suppliers; and
* funding programs accessible to the region.

For the last three financial years the Department of Education in Queensland has given each region funding for the repair and maintenance of computers. In a region such as the South Western this funding alone is

not enough to cover our costs. It is in conjunction with the South Western Priority Country Area Program that a repair and maintenance program has been implemented in the region. A technical Maintenance Officer equipped with a workshop based in Charleville and fully outfitted van services all schools in the South Western Region for repairs and maintenance to computer equipment. This officer travels on circuits around the region visiting each school on a regular basis. Notification of his itinerary is via the communication facility of Keylink. In addition to repairs being effected by the Technical Maintenance Officer on site at the school, some equipment is taken back to the workshop in Charleville, if it is deemed necessary for major repairs. Itinerant personnel in the region are frequently used as carriers to return equipment or take broken equipment into the major pick up points in the region which are cleared once or twice a week.

With this process for the repairs and maintenance of computers, the funding received by Central Office of the Department of Education is used for the payment of parts needed to effect repairs. All other costs are borne by the South Western Priority Country Area Program in an attempt to overcome the isolation caused by distance. This program has been operating successfully in the region for some years now, and schools are continually lauding the fine efforts of the Technical Maintenance Officer and the Priority Country Area Program. The benefits to school by operating in this manner mean that there are absolutely no costs at all to be met by the school, and turn around time is very short.

Conclusion

The many programs involving technology which have been implemented in the South Western region have attempted to overcome disadvantage caused by isolation and distance, and to provide opportunities for country students equivalent to that of their counterparts in city schools.

Professional development and support for Principals and teachers has become more essential than the provision of equipment. In a region where staff turnover is high, a concentrated effort to keep personnel abreast of technologically advanced equipment is essential if quality communication is to be maintained.

In an article by Robert Cole entitled 'Ghosts in Small-Town Schools', he says:

> Many of these little towns are necessary outposts of life. They will keep the schools they have because there's simply no place else close enough for children to go to school - and because these places are home, in a society where the idea of home is becoming an abstraction not rooted in a place. *These places are home*: Like all homes, some are healthier than others. Like all homes, they are worthy of our best efforts (1990, p. 11)

References

Cole, Robert. (1990) Ghosts in Small-Town Schools. *International Journal* (Spring/Summer 1990) pp. 44-48 published and condensed in *The Education Digest*, volume 56, No. 8, pp. 7-11.

TECHNOLOGY AND THE PROVISION OF SPECIALIST EDUCATIONAL SUPPORT SERVICES TO YOUNG CHILDREN OF ITINERANT FAMILIES

Mike Lally
Rural Education Research Unit
The University of Western Australia

Schooling for Young Children of Itinerant Families is a project being funded by the Bernard van Leer Foundation. Its purpose is to develop and implement educational programs for rural children aged from five to seven years who are disadvantaged in their early school learning because they change schools regularly.

Previous research has shown that there are significant gaps between the early school performances in language and number of some of these children and their residentially stable peers. That gap tends to widen in subsequent years of schooling.

A project team located at the University of Western Australia has developed educational software in the areas of mathematics, reading and handwriting which will help itinerant children to bridge gaps in their language and number skills. Direct access to those learning programs is available through Apple Macintosh computers installed in project schools.

This is an experimental project which has as its objective the provision of educational services to children aged 5 to 7 years of itinerant families in a distant area of Western Australia known as the Eastern Goldfields Region, some 600 kilometres from the capital city, Perth. The several reasons for having proposed such a project flow from the report 'Itinerancy and early school achievement: A pilot study of children in the eastern goldfields region of Western Australia'[1] are summarised below.

1. Itinerancy poses a world-wide educational problem. The research evidence is conclusive in suggesting that children in itinerant families

[1] This report is available from the Rural Education Research Unit, The University of Western Australia, Nedlands, 6009 Western Australia.

are disadvantaged educationally, compared with stable-resident family populations. Furthermore, it is the younger child who is most adversely child may not always exhibit a very marked disadvantage in cognitive and social skills at that age compared with children in stable-resident families but the effect at the end of primary schooling is very pronounced. Hence not only is there a special problem faced by the itinerant child, it is one which has to be addressed at the earliest possible age; in the pre-school and early school years.

2. Parents of itinerant families may themselves have come from itinerant families and, if so, it is also likely that they may have had limited access to post-school educational provisions. It is certainly the case that traditional educational systems are primarily directed towards supporting stable-resident family situations rather than itinerant ones and, even where the role of parent as educator has been appropriately recognised, systems have tended to expect stability of residence as the norm in providing support services.

3. It is symptomatic of the attention paid to itinerant families that Australian statistics are not available to determine their number. The total number of children involved is in the hundreds of thousands drawing on known statistics of certain populations such as military personnel and from the pilot study cited above which showed some thirty percent itinerant constituency even in stable-resident country towns.

4. Itinerancy is not merely a feature of the tyranny of distance such as Australia experiences. It is also a feature of the major metropolitan centres which contain most of the country's populations. The caravan parks and other evidence of mobility support this contention. In sum, therefore, the numerical extent of the problems is considerable.

Itinerancy is also a problem of international importance and not one peculiar to Australia. Mobility and distance are synonymous with the educational disadvantage of children.

The Project Aims

Out of concern for the schooling of young children of itinerant families, this proposal has evolved. The general objective of designing an appropriate educational program for children aged 5 to 7 years of itinerant families to meet the concerns expressed above is best approached by enumerating a number of specific objectives which are:

1. to provide individualised educational programs for the children concerned;

2. to involve parents in the management of their children's educational programs and to provide them with the necessary resources to participate in such management;

3. to provide a specialised teacher resource service to assist both children and parents in the learning process, especially in the context of this project;

4. to create a mechanism for the recording of pupils' performances, which can be readily and immediately accessed by the parties concerned;

5. to establish interactive student terminals in each of six centres in the nominated region in appropriate locations such as schools and/or community settlements, with on-line connections to a resource centre for this project; and

6. to develop software packages for instructional use designed to meet the particular needs of individual children, which will also involve parents and teachers.

This project has also developed an *information system* whereby the status of each child's educational achievement is maintained on a central database record. When a family moves to a centre where this system can be monitored all the parties to the child's interests can immediately be appraised of the child's situation and the student can continue his/her educational processes with a minimum of disruption.

The Technology Used

Australia is a country which has used technology in the past to overcome the tyranny of distance. John Flynn used aeroplanes to provide for the isolated and itinerant sick and the Royal Flying Doctor service was established as a consequence. Pedal radio was introduced to overcome the loneliness of distance and provide a ready means of communication. This project follows these precedents in introducing computer technology in the service of children's educational interests. Briefly put, the project has established an interactive student terminal in each of six centres, each linked by means of the government's telecommunications system to a central computer, which operates as a service centre and data base. The terminals have been placed at the most suitable available places (schools, community centres, caravan parks) for access by itinerant children.

The interactive student terminals are based on the Macintosh Plus microcomputer and linked via Netcomm modems to a central Macintosh SE hard disk microcomputer. Software has been developed by the Rural Education Research Unit to provide programs for individual children and to fulfil aspects of the objectives set out above particularly those related to parents.

The Macintosh computers at the schools make daily links by telephone with the University. Information about itinerant children in the project is recorded in a data bank at the project centre. This gives teachers and researchers direct access to information about an itinerant child's previous school history.

Six schools are currently taking part in this project. They are all in what is commonly called the Northeastern Goldfields region of Western Australia and are: Laverton District High School, Leinster Primary School, Leonora Primary School, Menzies Primary School, Rawlinna Primary School and Mt Margaret Primary School

Each of these schools is distant from the other and from the resource and administrative centres of the education system. Their geographic locations are arid and sparsely populated. In the last five years their annual turnover of pupil enrolments has been high and irregular. Teachers consulted in the schools acknowledged that there were many children in their classes whose learning suffered because of their disrupted schooling.

The project began in December 1987 and is anticipated to run for three years.

Development of software took a considerable amount of resources during the first year, however, sufficient programs have now been developed for the project to implement a delivery system which covers a broad range of the curricula in the first four (K-3) years of formal schooling. This software package was implemented in schools at the beginning of 1989, although a number of trials were made during 1988.

The Computer Programs

The following section describes some of the computer-based programs which have been developed and are now being used by students and in some cases by teachers where they wish to develop specific exercises for their own students.

Handwriting

Create Exercises is used by the teacher to define handwriting exercises. It involves the definition of individual letter shapes that can be added to a common file to create words of either manuscript or cursive script. The program allows the teacher to define parts of the words as invisible so that the child has to guess the word being presented to write it correctly.

Handwriting is the program the child uses to write the words. The program prompts the child with the starting point of each letter and tells the child in which direction the letter should be traced. After completing an exercise, the child can watch a replay of what was actually drawn and compare that with the correct tracing of the word.

Visual Discrimination

This program was designed to aid children's recognition of shapes. It uses a speech synthesiser to instruct the child, to advise of errors, and to reward the child when the exercise is completed successfully.

Reading Comprehension

These programs were designed for the same purpose, to aid children in Years K-3 to develop skills in structuring sentences and to read for meaning.

Cheaptalker is used by the teacher to design the exercises that are presented in SenStruct. The teacher writes a passage with missing words and offers alternatives for those missing words. Special syntax must be used to distinguish between correct and incorrect alternatives. (The syntax is disclosed in the "help" section of the program.) Speech is used extensively. Teachers can modify the pronunciation of the synthetic speech to their own preference.

SenStruct takes a file that has been designed with *Cheaptalker* and converts the text to a readable document with the blanks as the missing words. The alternatives for each blank are presented at the top of the screen and the child can obtain various levels of help to choose the correct alternative.

Lettername Recognition

This program, *Letter Names* , was designed to help children learn the names of upper and lower case letters. It distributes the fifty-two letters over twenty overlapping sets of eight letters. Learning reinforcement techniques have been built in. The main means of communication is the speech synthesiser incorporated within the hardware of the Macintosh.

Wordname Recognition

These programs have been designed to help children in Years K-3 with word recognition and pronunciation.

Create word exercises is used by the teacher to write the exercises that the children will use in the *Word Names* companion program. The teacher using *Create word exercises* must use special syntax (disclosed in "help") to write the exercises. Once again, the pronunciation produced by the voice synthesizer may be modified to suit the teacher's preference.

Word Names is similar in layout to *Letter Names*. It presents a number of categories created from a file designed by the teacher. The child is asked to find various words in a category. The words are presented in random order and position on the screen. Learning reinforcement has been built into this package.

Maths in Context

Maths in Context is a series of Mathematics packages which have been designed to fit into the Space, Measurement and Number strands of the K-3 Mathematics syllabus. Within this framework, the content is presented in a manner which is appropriate for Aboriginal and non-Aboriginal students. To accommodate such diverse differences choices are contained within each program where students are able to select and participate in appropriate number related activities. Most activities are open-ended, allowing a variety of uses and opportunities for teachers, Aboriginal Education Workers and community people to change the content to make it more relevant for their communities.

The individual programs include *Count me in, About me, Nugget hunt* and *Adventure maths.*

Count me in explores the concepts of space and shape in the environment through a series of activities utilizing maps and shapes of figures, for example, kangaroos, people and mine shafts. This program has three sections: *Find, Make a map* and *Nugget hunt*. The program has been designed to allow students to explore the concept of number. In this mode it supports the Number strand of the K-3 Mathematics syllabus.

Find allows students to look for their choices of objects, for example, money, honey ants and emus. In addition students may choose to count the objects found. *Make a map* allows students to create their own maps and hide objects for peers to find. *Nugget hunt* is a game which incorporates the skills learned in the first two games. The students work in small groups looking for gold nuggets. These can be exchanged for money at the shop to purchase selected items.

About me supports the K-3 Measurement strand of the Maths syllabus. Through a series of measuring activities relating to self, friends and family,

young children can explore the concept of measurement in meaningful ways which relate directly to their experiences. This program has three sections: *Me, Friends* and *Family. Me* allows students to build up profiles of themselves through measuring parts of their bodies (using pop sticks). *Friends* allows students to view their peers' profiles and make direct comparisons, for example, who is the tallest? *Family* involves the community through the recording of family profiles.

Nugget Hunt also supports the Measurement strand of the Mathematics syllabus, but incorporates area, length and time. The program has three sections: *What time is it? , Fill* and *Hunt. What time is it?* allows students to explore the concept of time through manipulating analogue and digital clocks in direct response to shadows and times of the day. In the program *Fill*, students are able to manipulate trucks and animals to fill defined spaces. *Hunt* allows students to follow a series of instructions which require the measurement of distances such as represented by animal trucks or rungs of a ladder, for example. The journey takes them through a variety of adventures.

These learning materials have been designed so that they are suitable for children in Pre-primary to Year 3. Levels of difficulty are determined by the skills and knowledge that are necessary for children to complete set tasks.

They are self-pacing materials which children can use alone or under adult supervision. Each package has activities for repetition and enhancement built in so that gaps in children's knowledge and skills are remedied before they proceed to activities which demand higher levels of competence.

Evaluation

A critical component of the project is the collection of evaluative data which will demonstrate the effectiveness of the programme. All children in Pre-primary to Year 3 in the participating schools, plus K-3 in another residentially stable rural town (for the purposes of a comparison group) have been tested to determine their performance levels. The first testing session was in mid 1988 and a second session was completed in late June 1989. Further testing will take place at the end of 1989 and during 1990. It is the comparison of these data which will provide information regarding the effectiveness of this project.

Several tests in various aspects of pre-reading, reading, word skills, and basic mathematics concepts have been used. In addition, data was gathered about the pupils' self-concepts and their attitudes towards school and school-learning.

It is anticipated that if the evaluative data are positive, then the project will be expanded to other areas of Western Australia and will be made available to other states and individuals. The potential of the programs and the management of information obtained is relevant not only to children of itinerant families but is also of assistance to isolated children and children who need enrichment activities. More information concerning this project can be obtained from the author.

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